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The OIL WEEKLY

Exclusively Devoted To The Production and Transportation of Oil and Gas

Engineering News Statistics

October 3, 1930 Volume 59, No. 3

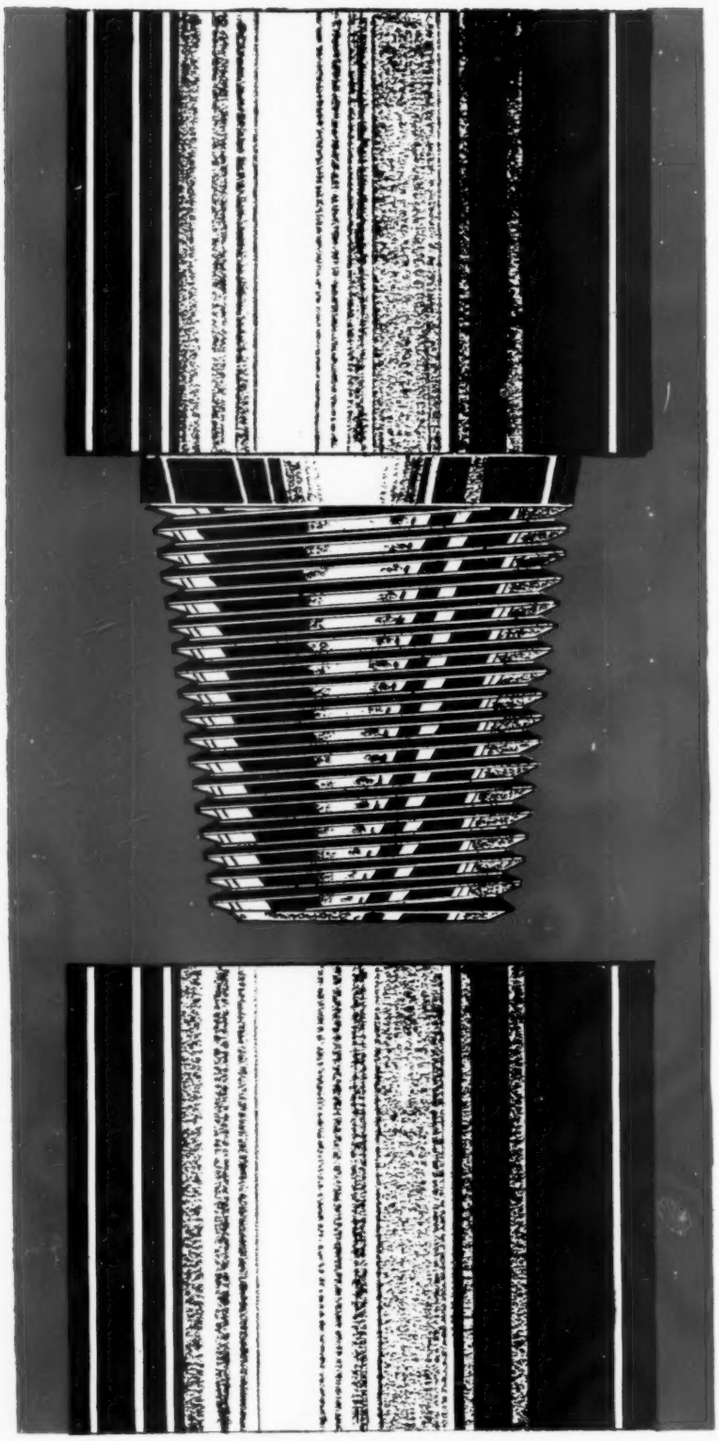
BJ

Weldless
LINKS
with
Perfection Bend

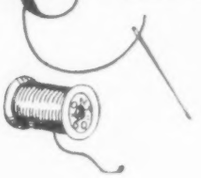
And Now-
new sizes for
Tubing Elevators

forged
to TWICE
the strength of
your DERRICK

BYRON JACKSON CO.
Los Angeles. California



ACCURATE THREADING



THE MODERN high pressure mud pumps demand the perfect pressure tight connections assured by Spengler Tool Joints. Machined to precision from special heat treated alloy steel, their accurate, clean cut treads grip and HOLD.

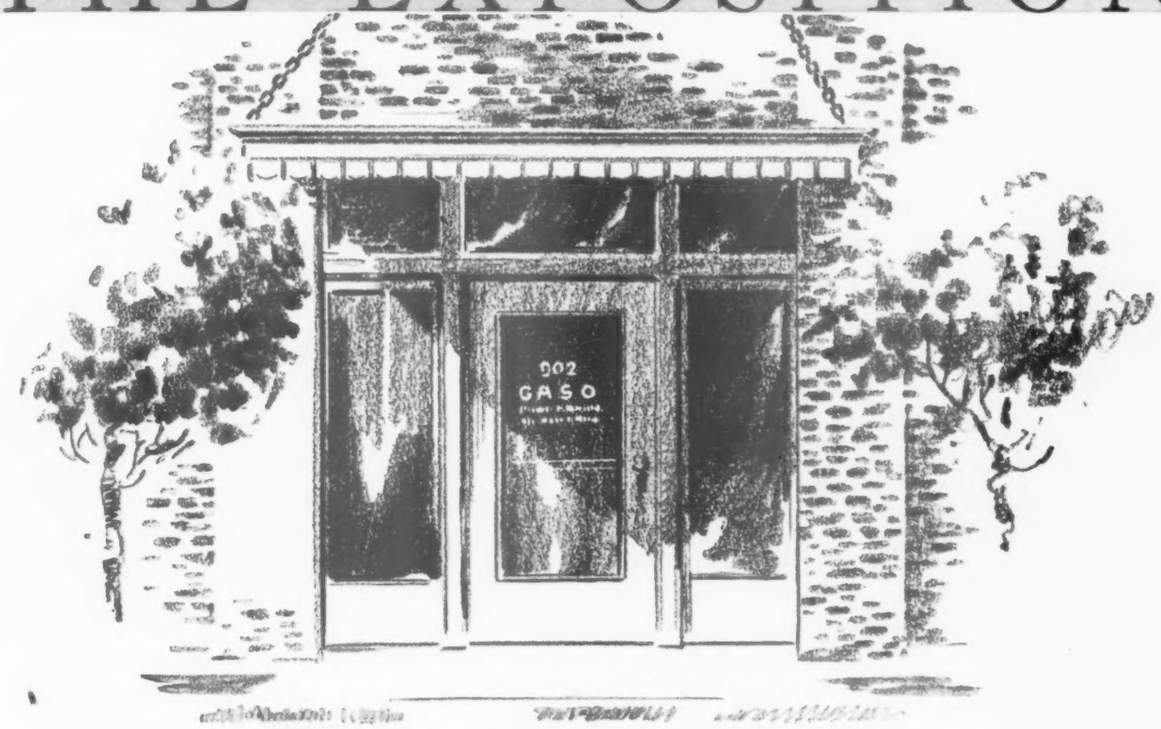
SPENGLER TOOL CO.
ROTARY Drilling TOOLS
GENERAL OFFICES AND
PLANT. OKLAHOMA CITY

SPENGLER

ROTARY CHAIN, ROCK BITS, CONES

The OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 3301 Buffalo Drive, Houston, Texas. Subscription price $1.00 per year, 15 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 187

YOU ARE INVITED TO VISIT US DURING THE EXPOSITION



YOU will find a hearty welcome at Booth 64, Oklahoma Building . . . and we will be glad to have you enter our door at 902 East First St. and let us *show* you what we mean by "Gaso standards of construction."

GASO PUMP & BURNER MFG. CO.
902 East First Street Tulsa, Oklahoma

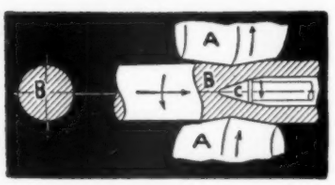
GASO PUMPS

FOR EVERY OIL INDUSTRY NEED

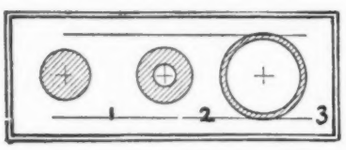
Pictured above is the first piercer in the J & L No. 2 Seamless Tube Mill at the Aliquippa, Pa., Works. One of the solid round billets, white hot, from which J & L Seamless Pipe is made, may be seen rolling down the skids, to enter the machinery in the right foreground, to be converted into tubular form. Compare the size of this powerful machinery with the operator, at his controls, in the center of the picture.

Right from the Start

J & L Strives for Seamless of Uniform Wall Thickness

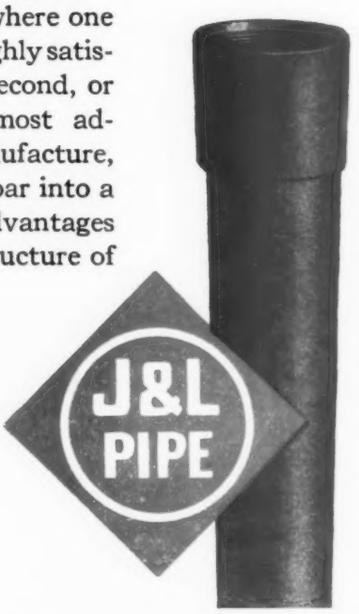


Sketch shows in cut-a-way view, the operation of the first piercer. The rolls, "A," carry the solid round billet, "B," over the piercing point, "C."



Development of cross section in the manufacture of J & L Seamless: 1. Before piercing; 2. After first piercing; 3. After second piercing.

IN producing all sizes of Seamless Pipe, except the smaller tubing where one piercing operation is thoroughly satisfactory, J & L employs also a second, or expanding, piercer. By this most advanced method of seamless manufacture, J & L converts the solid round bar into a tube gradually and easily. Advantages are, absence of strains in the structure of the steel and production of a tube of relatively uniform wall thickness right at the start. Together, these results make for uniform strength and dependability in the finished J & L Seamless when it goes into service in the field.



JONES & LAUGHLIN STEEL CORPORATION

AMERICAN IRON AND STEEL WORKS

J&L STEEL

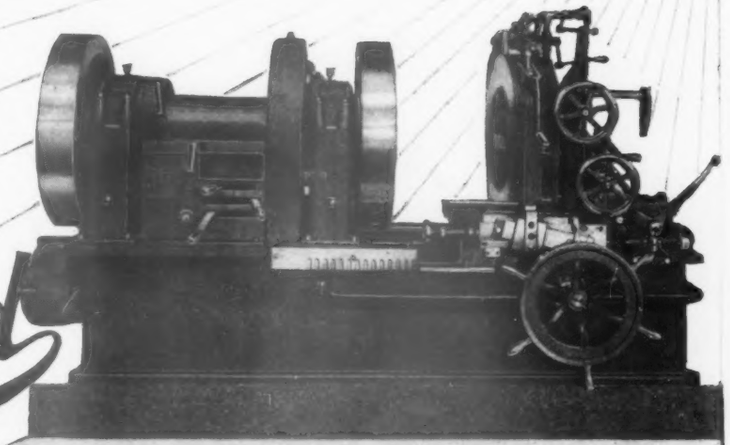
Manufacturers of Seamless and Welded Casing, Tubing, Drill Pipe and Line Pipe, and Welded Steam, Gas and Water Pipe in both Black and Galvanized.

Also makers of Bars, Shapes and Plates, Reinforcing Bars, Cold Finished Steel, Junior Beams, Steel Piling, Fabricated Structural Work, Steel Barges, Wire Products and Tin Mill Products.

JONES & LAUGHLIN BUILDING, PITTSBURGH, PENNSYLVANIA

LANDIS

takes a long step Upward



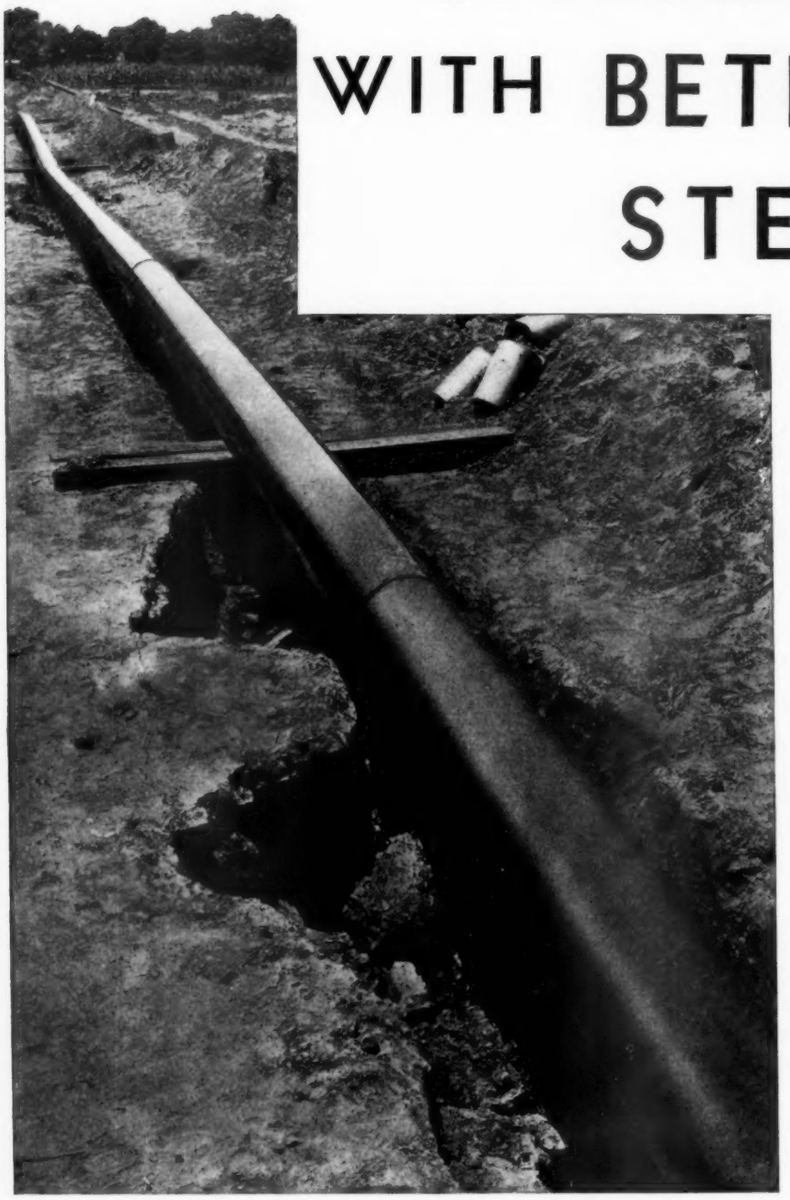
Landis offers a new pipe threading and cutting machine with *receding chaser two-cut die head and lead screw attachment*. This machine provides the following definite advantages—

1. A straight line taper which is extremely accurate and absolutely uniform throughout the entire thread length.
2. Increased chaser life between grinds, especially with seamless tubing.
3. Lower chaser cost through use of narrow chasers on long thread lengths.
4. Roughing and finishing cuts independent of the diametrical adjustment.
5. Individual adjustment of chaser holders.
6. Low power consumption for threading operation.
7. A perfect thread start and accurate lead.
8. Simple and rapid adjustments for pipe size, pitch, taper and thread length.

LANDIS MACHINE CO., INC.
WAYNESBORO, PENNA., U.S.A.

The machine will be on display in Booths 4 and 5, Oklahoma Building, at the International Petroleum Exposition which will be held at Tulsa, Oklahoma, October 4th to 11th inclusive.

SAFEGUARDED WITH BETHLEHEM STEEL PIPE



More and more the resources of nature are being exploited . . . more and more the barriers of distance are being overcome. Railways, waterways, pipe lines, reaching the remotest sections supply the necessities of life and industry, everywhere.

Of this vast system of carriers, pipe lines play an important part. Through them, cities and industries, far removed from the sources of supply, receive the gas, oil and water upon which they depend.

Naturally, such projects, involving millions of dollars in investments, must be safeguarded with quality materials — materials that will give long and faithful service.

The hundreds of miles of Bethlehem Line Pipe that have been installed during the present year for the conveyance of oil and gas, are substantial evidence of the high quality and dependability of Bethlehem Pipe.

Oct. 4th to 11th
Spaces 130 - 133
Texas Building

BETHLEHEM STEEL COMPANY
General Offices: Bethlehem, Pa.

District Offices: New York, Boston, Philadelphia, Baltimore, Washington, Atlanta, Pittsburgh, Buffalo, Cleveland, Detroit, Cincinnati, Chicago, St. Louis.

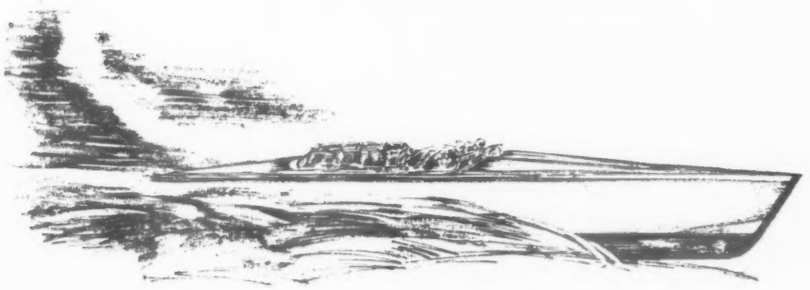
Pacific Coast Distributor: Pacific Coast Steel Corporation, San Francisco, Los Angeles, Portland, Seattle, Honolulu.

Export Distributor: Bethlehem Steel Export Corporation, 25 Broadway, New York City.

Bethlehem maintains at Houston, Texas, and Wilmington, California, well assorted stocks of line pipe, ready for immediate shipment. Both threaded and coupled and plain-end pipe are included in these stocks.

BETHLEHEM

THE SPEED BOAT KING
must be sure of his hull



THE OIL MAN
must be sure of his Equipment

Comes the "test mile" — the Speed Boat King presses the gas feed firmly to the footboard. Skimming the water at a speed close to 100 miles an hour his one great thought is for his hull! At such speed a mere chip floating atop the choppy waves may spell disaster if his hull is weak at any point. His boat rides in much the same manner as an automobile without springs over a furrowed field. To withstand such strain and punishment the hull must be perfect in construction if he is to make his mark—a new speed record.

Oil Men the world over have learned to depend upon Norvell-Wilder service and equipment in aiding them to reach pay sand FIRST. It's often the small difference of time-saving service—or the correct tool for the job near at hand—that enables the Oil Operator to reach his goal in record time. It is this unfailing service and array of equipment that has given the Norvell-Wilder organization first call at the Oil Operator's first sign of distress.

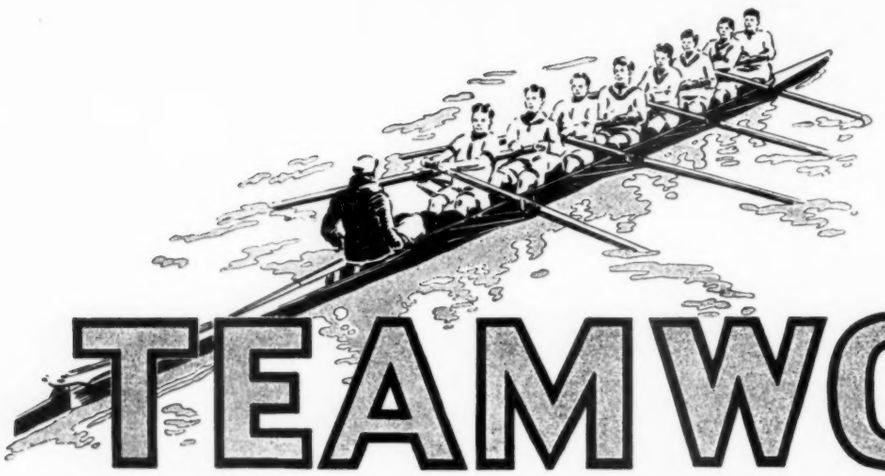
You can depend upon the NORVELL-WILDER MAN to pull you through to new records in the oil field. Call on him to serve you.

A few of the well-known lines available to you through NORVELL-WILDER

Alemite Company
A. M. Byers Company
American Cable Company
Baker Oil Tool Company
Borden Company
Byron Jackson Company
Chain Belt Company
Gardner-Denver Company
Hercules Motors Corporation
Jefferson Union Company
Jones & Laughlin Steel Corporation
Kennedy Valve Manufacturing Company
Kerotest Manufacturing Company
Lunkenheimer Company
Wright Manufacturing Company

Norvell-Wilder *Supply Company*

BEAUMONT HOUSTON SHREVEPORT FORT WORTH



TEAMWORK

AMONG STRANDS MEANS A BETTER ROTARY DRILLING LINE

In Tru-Lay, each strand carries its share of the load—in *team work* with every other strand. Team work is possible because each wire and strand is preformed to the helical shape it assumes in the finished structure.

This illustration shows how a strand and wire can be unwound and placed back into position. Note that it is not necessary to sieze the end of Tru-Lay.

Team work among strands means elimination of internal stress. Preforming reduces the tendency to kink—it makes for greater flexibility. Tru-Lay hugs the drum and spools almost as tightly under the weight of the idle block as it does under the weight of a long string of pipe.

Note:

Are you going to the Exposition? You are invited to call at our booths Nos. 97 and 98 in the Texas Building.

Sold in Field Stores by:

Eastern Oil Fields:

NEW MARTINSVILLE SUPPLY CO., New Martinsville, W. Va.
LLOYD SMITH CO., Bradford, Pa.
SLICKER PIPE, TOOL & SUPPLY CO., Knox, Pa.
MITCHELL & GRAHAM, Emlenton, Pa.
MASSETH, PACKER & MACHINE CO., Butler, Pa.
LAWRENCEVILLE MACHINE CO., Lawrenceville, Ill.

Mid-Continent Oil Fields:

ATLAS SUPPLY COMPANY, Tulsa and Muskogee, Okla.
FARLEY MACHINE WORKS CO., Arkansas City, Kans.
NORVELL-WILDER SUPPLY CO., Beaumont and Houston, Texas
PELICAN WELL TOOL & SUPPLY CO., Shreveport, La.

Rocky Mountain Oil Fields:

COLONY CORPORATION, Rock Springs, Wyoming

California Oil Fields:

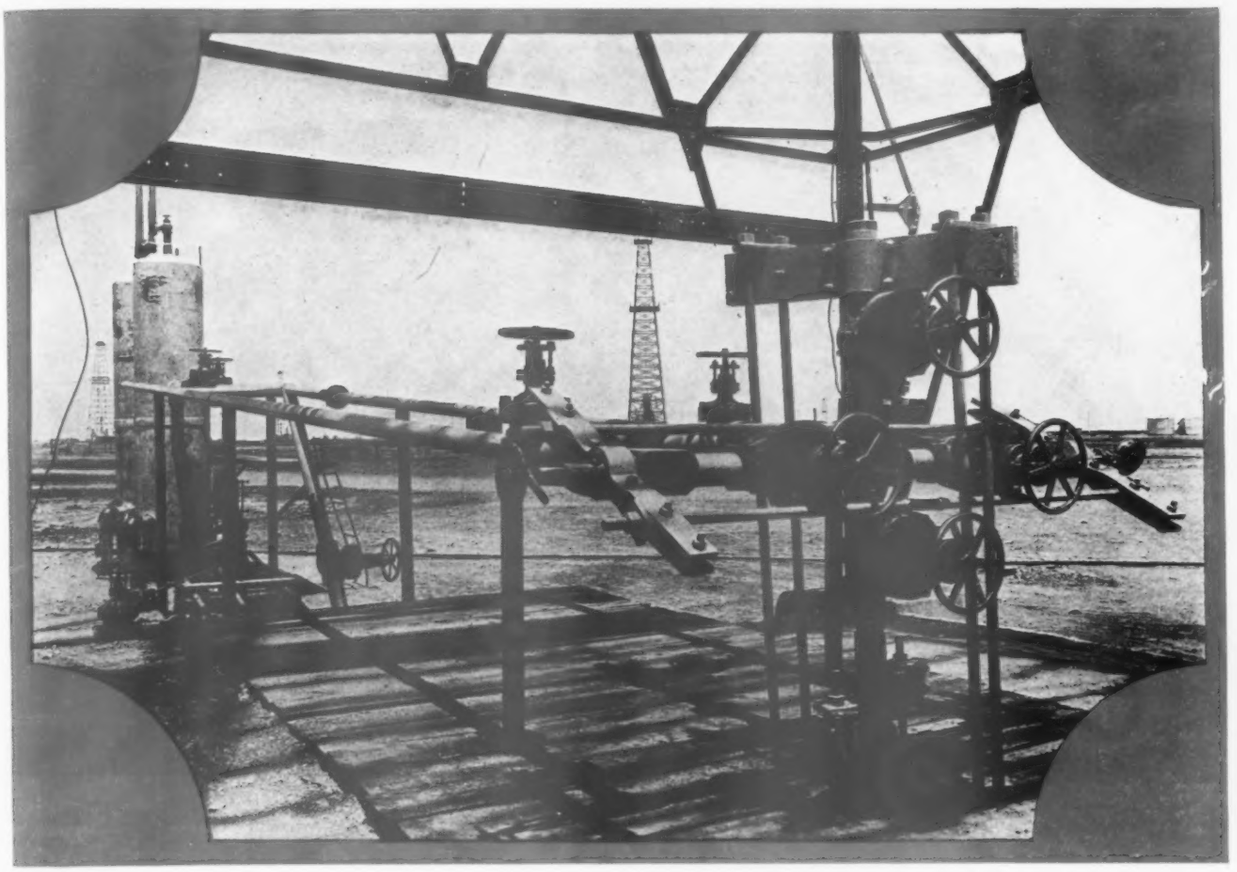
AMERICAN CABLE COMPANY, *Inc.*, San Francisco, Calif.
W. B. CORNISH, 3924 Baker Ave., Bell, Calif.
ALCO OIL TOOL COMPANY, Compton, Calif.

AMERICAN CABLE COMPANY, ***Incorporated***

New York Central Building, 230 Park Avenue
New York, N. Y.
District Offices: Emlenton, Pa., Tulsa, Okla., San Francisco, Calif.
An Associate Company of the American Chain Company, *Inc.*
Canadian Licensed Manufacturers:
Dominion Wire Rope Company, *Limited*, Montreal
Canada Wire & Cable Company, *Limited*, Toronto
Anglo-Canadian Wire Rope Company, *Limited*, Montreal

American Cable Company

Tru-Lay *Preformed* **WIRE LINES** **Crescent** *Standard*



A 100% Kerotest Valve and Fitting Installation Protects this $20,000 per day Oil and Gas Producer

« « « « « « « The Ohio-Independent Northrup No. 1 Well at Hobbs, New Mexico, which came in with an initial flow of 9,000 barrels of oil and 48,000,000 cubic feet of gas, is one of the many good producers throughout the petroleum world equipped with Kerotest—the famous kerosene-tested valves.

Here is a certified line of valves that has never been known to fail—just one of the many reasons it enjoys the explicit confidence of drillers and operators everywhere.

KEROTEST

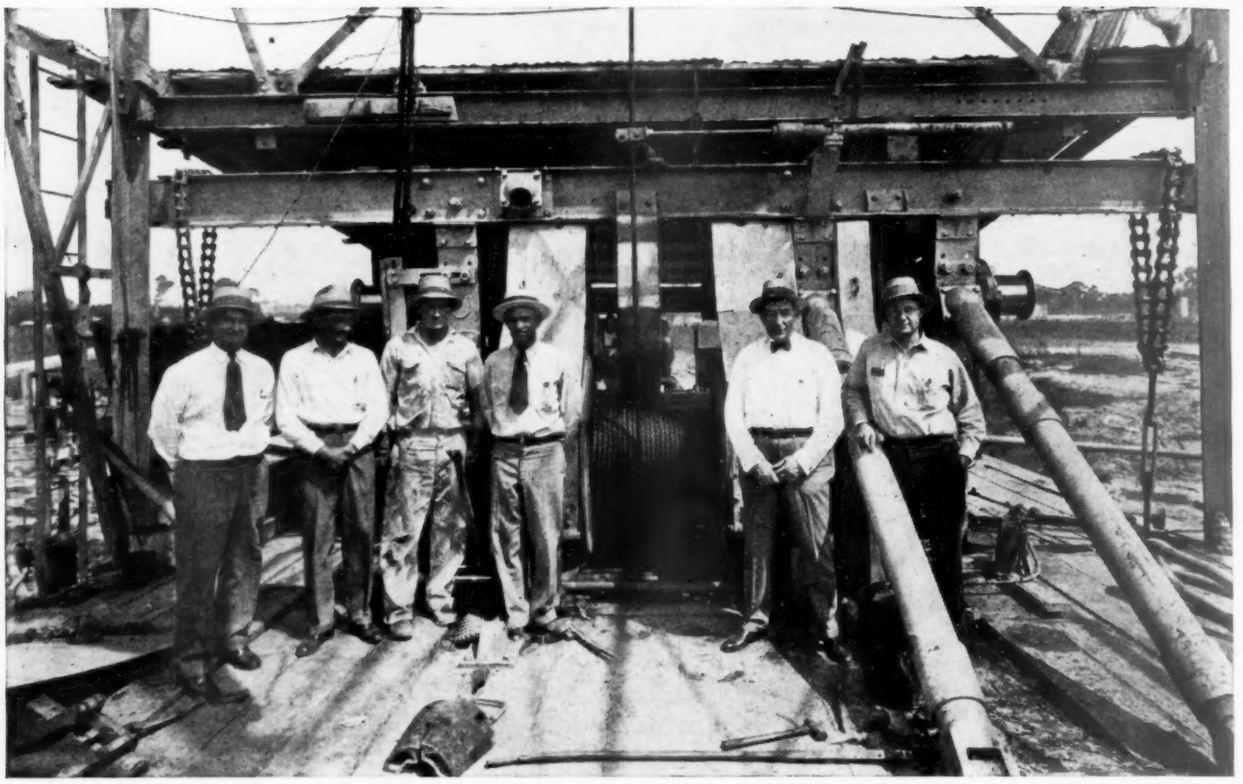
KEROTEST MANUFACTURING CO., PITTSBURGH, PA.

Carried in Stock and Sold by

NORVELL-WILDER SUPPLY COMPANY, Houston, Beaumont, Shreveport, Fort Worth

OIL WELL SUPPLY COMPANY

Branch Stores and Offices throughout the World



This Union Line Stood the Test at Oklahoma City

• • • VISIT US AT BOOTHS 56, 57 AND 58 TEXAS BUILDING DURING THE • • • • INTERNATIONAL PETROLEUM EXPOSITION

When Campbell and Parker drilled the Wirt Franklin Wright No. 2 in the Oklahoma City Field to 6552 feet, the UNION ROTARY LINE - - as usual - - stood the test. The above photo shows tearing down and getting ready to bail. The men, left to right, are: Jas. A. Undercofler, Union Wire Rope Corp.; Dick Barnett, tool pusher; Sandy Cummings, driller; and G. C. Parker, J. A. Campbell and Glenn A. Campbell, of Campbell and Parker Drilling Company.

UNION oil country wire lines stand up because they are designed by men who know the work they have to do, and are manufactured entirely within our own modern plant under conditions that can assure unfailing uniformity.

UNION WIRE ROPE CORPORATION
3 North Madison Ave., Tulsa, Oklahoma
Oil Country Sales and Export Offices: 338 Kennedy Bldg., Tulsa
Branch Office and Warehouse: Portland, Ore.
Factory: 21st and Manchester, Kansas City, Mo.

JARECKI MANUFACTURING COMPANY
Mid-Continent and Eastern Oil Field Distributors - - Stocks at All Stores

UNION WIRE ROPE CORP

TRADE MARK

UNION WIRE LINES

A STRAIGHT HOLE *Saves Dollars* FOR THE OIL MAN

Every experienced oil man knows the savings in dollars that a straight hole brings to him. Less trouble, less time, and less drilling costs accompany a straight hole. The APPLEMAN GUMBO BIT drills straight holes for less weight is needed to feed this bit.

FEATURES THAT GIVE GREAT SPEED

APPLEMAN GUMBO BITS

SELF-SHARPENING BLADES are attained by hard facing in the concave shaped blades permitting wear on the back to retain the cutting edges.

STRAIGHT WATER COURSES lead directly to the cutting edge, insuring rapid mixing and breaking up of cuttings to be quickly washed away in solution.

SIDEWALL CUTTING is attained by the self-sharpening blades and their special design. This gives a clean 'and well-prepared sidewall "bored to size."

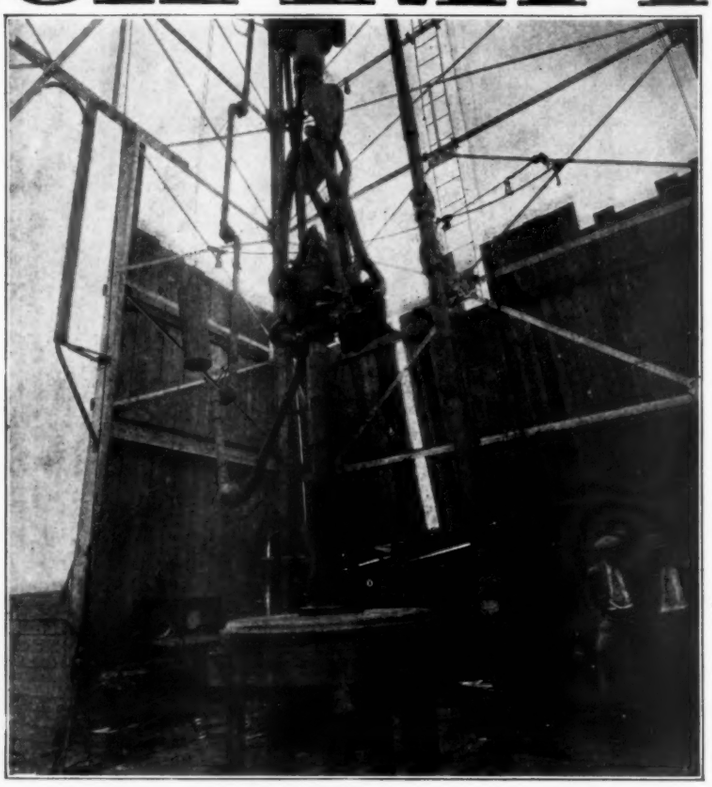
SEE OUR DESCRIPTIONS IN THE COMPOSITE CATALOG

Ask the man who uses them.

B. K. APPLEMAN

BEAUMONT, TEXAS

CHAMPION ALL-STEEL ROTARY HOSE



Champion All-Steel 3" Rotary Hose in Service on Capitol Drilling Company Well, Oklahoma City, Okla.

meets every demand for positive safety in modern drilling practice

Champion All-Steel Rotary Hose eliminates leaks, hose failures and blowouts because each and every part is sturdily constructed for safety, long life and abrasive wear resistance.

This All-Steel hose withstands the highest pressures—is not affected by climatic conditions—weighs practically the same as fabric hose of the same size—is perpetually flexible and swivels in any direction from any rig position, regardless of pressure poundage. Write for illustrated Bulletin No. 202.

NIKELADIUM HOSE CONNECTIONS

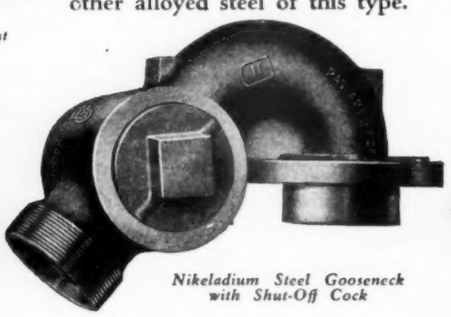
An exclusive feature of the connections of Champion All-Steel Rotary Hose is the use of *Nikeladium Steel* for all parts requiring great strength. This steel possesses more strength per square inch than any other alloyed steel of this type.

Male Hose Connection

Nikeladium Steel Wing Nut Connection

Female Hose Connection

Nikeladium Steel Vertical Standpipe Outlet



Nikeladium Steel Gooseneck with Shut-Off Cock

Nikeladium Steel Gooseneck (Plain)

See our Exhibit at the TULSA EXPOSITION Booths 6, 7, 8, 9 California Building

Champion & Barber
INCORPORATED

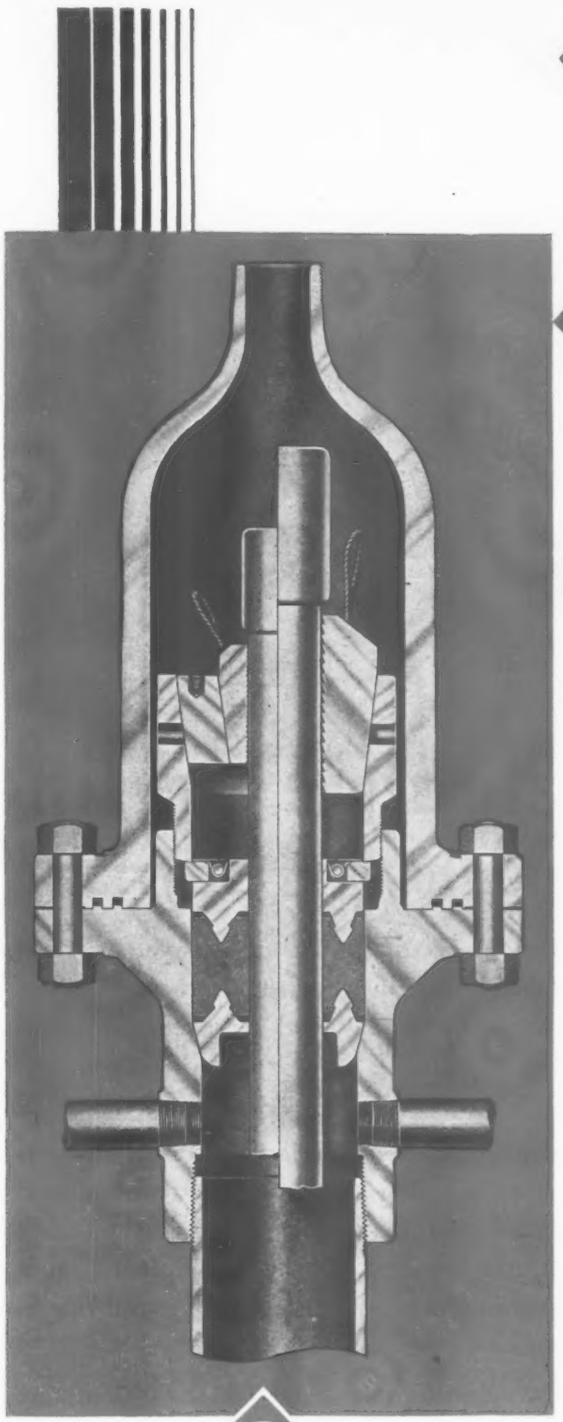
506 Subway Terminal Bldg.
LOS ANGELES, CALIF.
Telephone MUtual 2756

Mid-Continent Distributors: BAILEY & BECKER Co., 410 Thompson Bldg., Tulsa, Okla.
Gulf Coast Distributor: BETTIS SALES CO., 917 Merchants and Manufacturers Bldg., Houston, Texas
Export Distributor: W. S. FELLOWS, 39 Cortlandt St., New York

CHAMPION PRODUCTS

- Champion All-Steel Rotary Hose.
- New Method Screen Pipe.
- Champion Nikeladium Steel Goosenecks (plain or with Stop Cocks).
- Champion Nikeladium Rotary Hose Connections and Parts.
- Champion Pressure Gauge Protectors.
- Champion Sand Master Screen Casing.

Write for complete information.



3 IN 1

The BAASH-ROSS *Combination* BLOW-OUT PREVENTER TUBING HEAD or PACKING HEAD!

Safe, positive and unyielding control at high pressure.

An efficient, safe tubing head when the well is completed.

BAASH-ROSS combines *three* of its most widely accepted tools into *one* unit which offers the superior advantages of each at a *material economy in initial cost.*

The new appliance consists essentially of a cast steel body, an improved BAASH-ROSS Blowout Preventer assembly and a cast-steel bonnet...tested to 5000 pounds pressure. The body is provided with assembly and spider with which slips for either drill pipe, tubing or casing may be used.

It is the *only* head which has *three* different ways of sealing off pressure....by screwing down the spider tightly upon rubber packing ring...by lowering the drill pipe coupling or tool joint until it rests on upper ring of the assembly and expands rubber packing...or by picking up drill pipe until the coupling or tool joint below the blowout preventer forces rubber to expand.

Write for your free copy of Bulletin 46-A describing the Baash-Ross Combination Blowout Preventer and Tubing head...just off the press

On display at Tulsa Show Spaces 41-42

J&L PIPE B-R

BAASH-ROSS TOOL COMPANY

5512 BOYLE AVENUE, LOS ANGELES, CALIF.

Export Department . . New York . . 30 Church Street
District Offices . Houston, Texas . 1816 Nance Street
Oklahoma City . . . . 1559 East G Street, Capitol Hill

24-hour field shop and supply service at . . . . LONG BEACH . . . . BREA
VENTURA . . . . . TAFT . . . . . OKLAHOMA CITY

BAASH-ROSS TOOL COMPANY
Box 1297 Arcade Station, Los Angeles, California

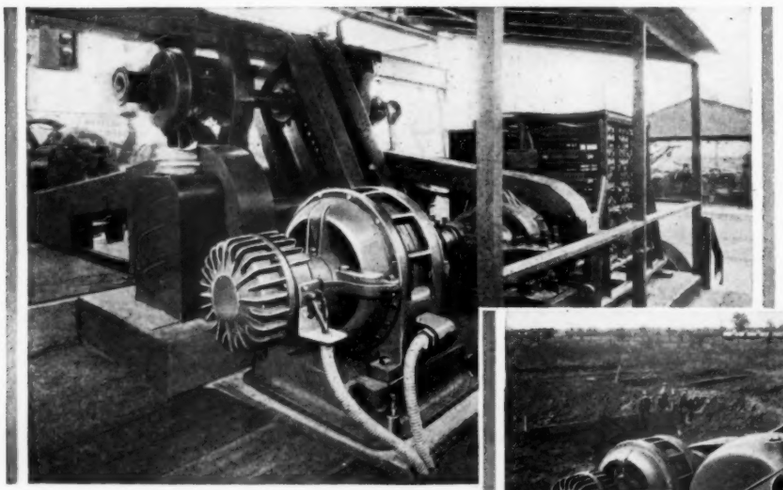
Please send me . . . no charge or obligation Bulletin 46-A describing the Baash-Ross Blowout Preventer and Tubing Head.

*Name*_____

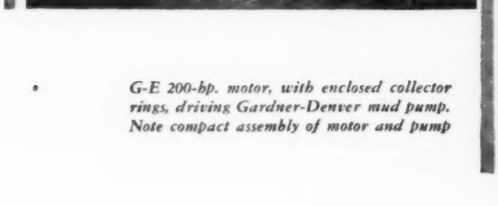
*Company*_____

*Address*_____

Oil Weekly, Oct. 3, 1930



G-E 200-hp. induction motor, with enclosed collector rings, coupled to Emsco reduction gear driving draw works on Emsco rotary drilling rig



G-E 200-hp. motor, with enclosed collector rings, driving Gardner-Denver mud pump. Note compact assembly of motor and pump

"We are all for electric drilling —but what about shipments and service?"

ANY OIL MAN might ask that—and many have. And they have found a satisfying answer in the fact that General Electric maintains a far-flung sales and service organization capable of meeting the demands of every major industry for electric equipment.

General Electric manufactures complete drives for all types of drilling operations, including motorized draw works, mud pumps, oil and water pumps, and the like. Every piece of equipment is built and installed on the principle of more footage per tour at minimum cost for power, general operation, and maintenance.

Oil-field specialists of either the General Electric Company or its representative, the Continental Supply Company, are readily available in the fields, and can give you information about G-E equipment. In most cases your needs can be met direct from stock, at a warehouse near you.

General Electric supplies complete electric equipment to the oil industry. With warehouse facilities close to your operations, G.E. readily furnishes motors, controllers, transformers, and other electric equipment. You are always assured full value from your investments in electric drive.

G-E oil field specialists at: Abilene, Amarillo, Bakersfield, Beaumont, Buffalo, Butte, Dallas, Denver, El Paso, Fort Worth, Houston, Kansas City, Los Angeles, Odessa, Oklahoma City, Pittsburgh, San Antonio, San Francisco, Shreveport, Tulsa, Wichita.

200-393

JOIN US IN THE GENERAL ELECTRIC PROGRAM, BROADCAST EVERY SATURDAY EVENING ON A NATION-WIDE N.B.C. NETWORK

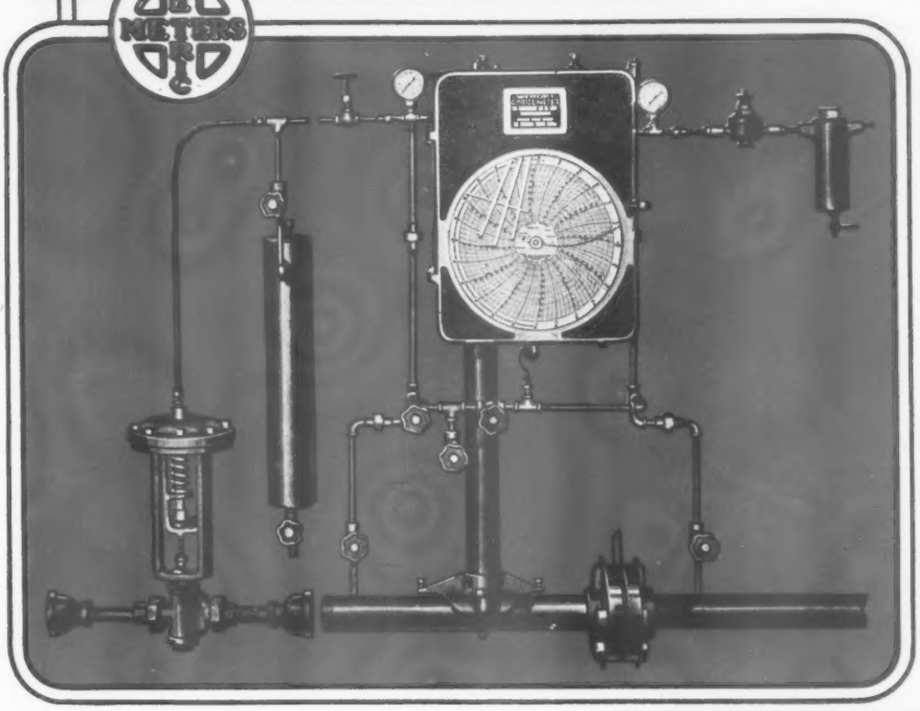
GENERAL ELECTRIC

SALES AND ENGINEERING SERVICE IN PRINCIPAL CITIES

METRIC *Rate-Volume Controller*

Gives positive, constant control of VOLUME—in Refineries, Natural Gasoline Plants, etc.

Designed to control volume of gas or liquid flow, the Metric Rate-Volume Controller also can be applied to the proportional control of two liquids or gases, or a gas and a liquid. Actual applications include:



IN REFINERIES

1. Controlling rate of oil charged to each crude distillation unit.
2. Controlling rate of oil charged to each cracking unit.
3. Controlling rate of oil charged to each steam still.
4. Controlling amount of steam used in steam still.
5. Controlling rate of crude medium to each tower.
6. Individual volume control of acid or caustic flow in connection with "continuous treaters," for light distillate such as gasoline.

IN GASOLINE PLANTS

1. Controlling rate of flow of absorption oil sent to the absorbers.
2. Controlling rate of flow of gas sent to the absorbers.
3. Controlling rate of flow of oil to the still.
4. Controlling rate of flow of lean oil from the still.
5. Controlling rate of flow of steam to the still.
6. Controlling rate of flow of oil charge to kettle in gasoline stabilization.

SPECIALISTS in Petroleum Industry measurement and control, WESTCOTT & GREIS offer measurement and control equipment produced by world-famous makers. We also offer authentic technical information regarding measurement and control of fluids, gas, air and steam—maintaining for this service a well equipped mechanical laboratory at Tulsa, and a staff of experienced engineers.

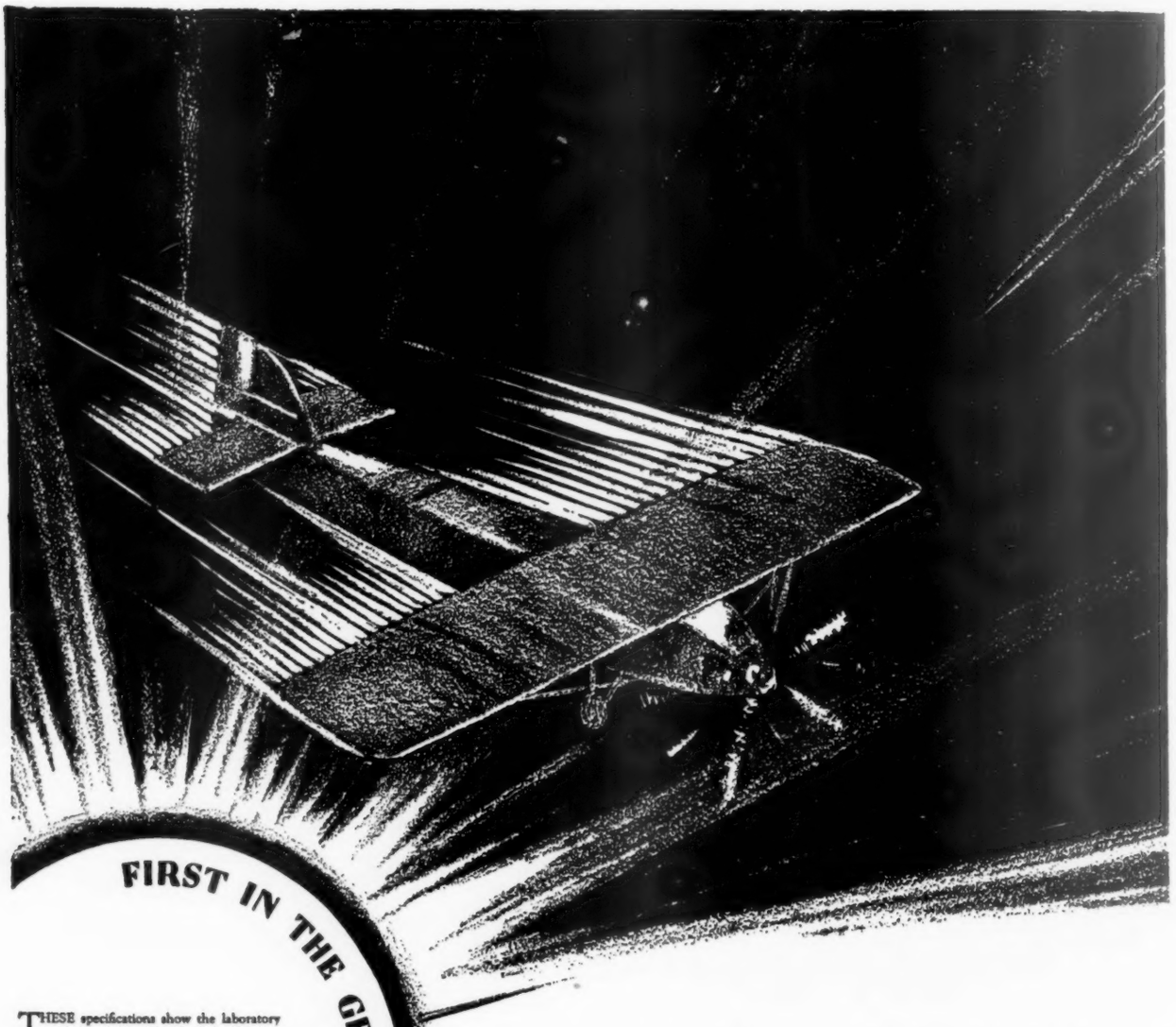
WESTCOTT & GREIS, INC.

DALLAS TULSA HOUSTON LOS ANGELES

SEE OUR EXHIBIT
BOOTHS 41-42-43-44
SCIENTIFIC and TECHNICAL
BUILDING
International Petroleum Exposition

WESTCOTT & GREIS

MEASUREMENT AND CONTROL



FIRST IN THE GET-AWAY!

THESE specifications show the laboratory analysis of Humble *Flashlike* Gasoline and its explanation in everyday terms.

You may not be interested in a technical description of how gasoline is made, but everyone who drives a car is interested in how the product acts in the motor.

It will pay you to study these specifications and make them the basis on which you buy your gasoline.

HUMBLE FLASHLIKE GASOLINE

SPECIFICATIONS

LABORATORY ANALYSIS			WHAT IT MEANS TO YOUR MOTOR
Initial Boiling Point	110 Maximum	:	Easy starting--First in the get-away--No sputtering
% distilled at 221° Fahr. % distilled at 284° Fahr. % recovery	25 Minimum 52 Minimum 97%	:	More power, long burning stroke, less gear shifting
End Point	400	:	Complete vaporization--complete combustion
Doctor Test	OK	:	Clean odor--never offensive
Corrosion Test	OK	:	No choking or corrosion of gas line
Color	Plus 25	:	Highly refined, clean, and clear
Sulphur	less than 1/10 of 1% Max.	:	No pitting of valves, or fouling of oil
Gum Test	OK	:	No resinous precipitate to clog carburetor

HAZARD
LAY-SET
Lay-Set Preformed Wire Rope spools perfectly. It winds on your drum almost as tight running idle as when under heavy load.
SERVICE reports from every industry prove that preformed wire rope gives from 30% to 300% added service, over ordinary wire rope. Because of this, Lay-Set Preformed Wire Rope is used by operators interested in rope economy.
Our new "Book of Facts" fully explains the preforming principle, and why there are seven cardinal reasons for Lay-Set's increased service. You should have a copy of this book. Send for it—today.
When at the Tulsa Exposition, make the Hazard exhibit your headquarters. Booth 28, Texas Building.
HAZARD WIRE ROPE COMPANY
WILKES-BARRE
PENNSYLVANIA
New York Pittsburgh Ft. Worth Chicago Los Angeles
San Francisco Denver Birmingham Philadelphia Tacoma

SEE THESE EXHIBITS IN AND CONTINENTAL BUILDING AT

The Youngstown Sheet and Tube Company
A Miniature Pipe Mill in Operation

Emsco Derrick and Equipment Company
Complete Rotary Drilling Equipment

Fairbanks, Morse & Company
Diesel Oil Engine and Twin Cylinder Gas Engine

Gardner-Denver Company
New Pump, Drilling Engine, Etc.

Farrar & Trefts, Inc.
New Super Heater Boiler

D + B Pump and Supply Co.
Sucker Rods, Pumps, Etc.

Westcott Valve Company
Valves

Mechanical Rubber Company
Rough Rider Belting, Etc.

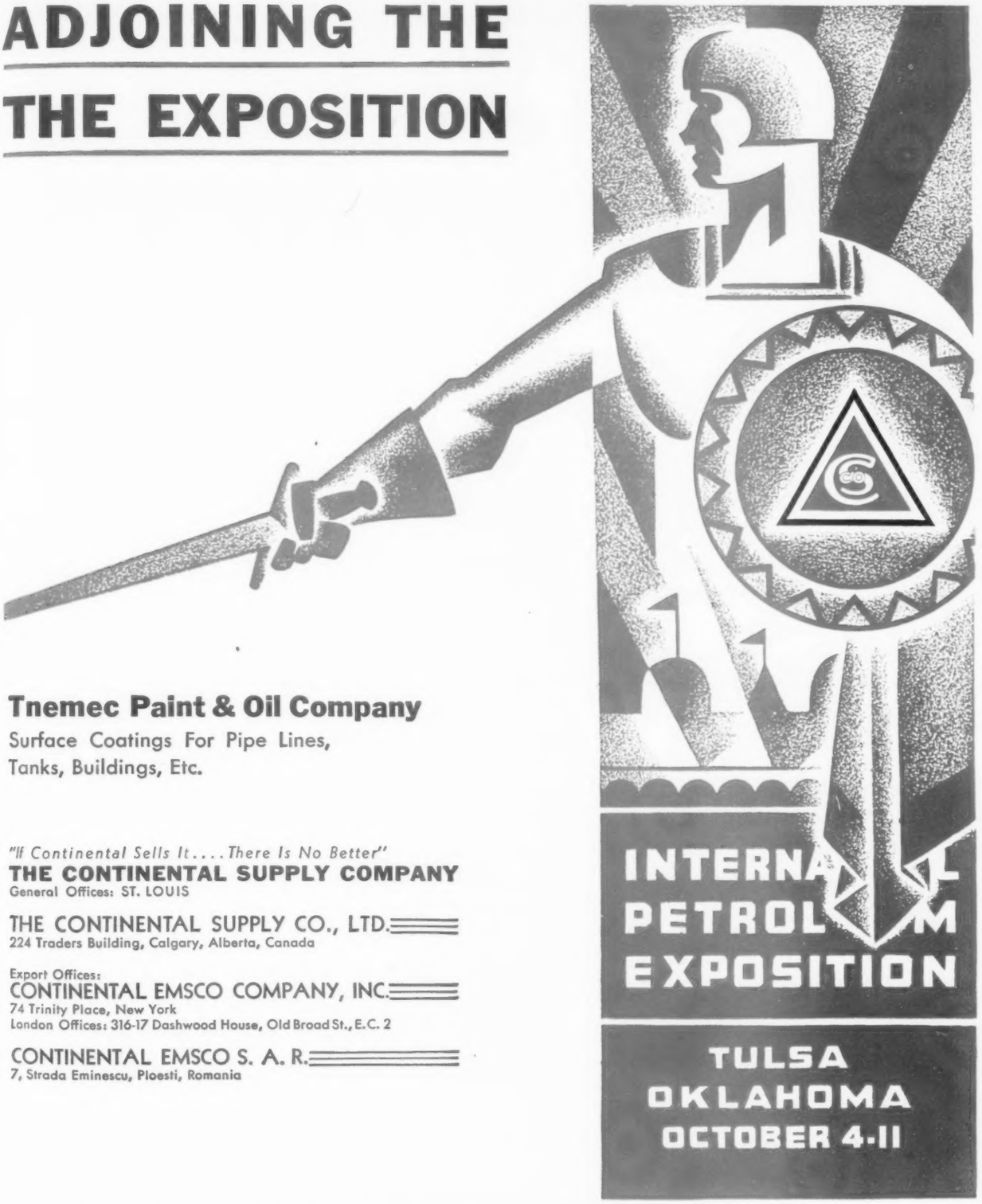
Goodall Semi-Metallic Hose and Manufacturing Company
Rotary Hose

Grinnell Company
Fittings

New Bedford Cordage Co.
Cat Lines, Bull Ropes, Etc.

CONTIN

ADJOINING THE
THE EXPOSITION



Tnemec Paint & Oil Company
Surface Coatings For Pipe Lines,
Tanks, Buildings, Etc.

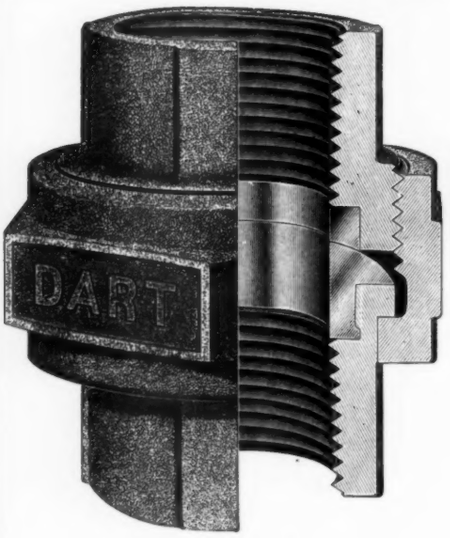
"If Continental Sells It.... There Is No Better"
THE CONTINENTAL SUPPLY COMPANY
General Offices: ST. LOUIS

THE CONTINENTAL SUPPLY CO., LTD.
224 Traders Building, Calgary, Alberta, Canada

Export Offices:
CONTINENTAL EMSCO COMPANY, INC.
74 Trinity Place, New York
London Offices: 316-17 Dashwood House, Old Broad St., E.C. 2

CONTINENTAL EMSCO S. A. R.
7, Strada Eminescu, Ploesti, Romania

ENTAL



Sizes ⅛" to 4" inclusive.

DART UNIONS

The Choice of the Careful Operators

Careful operators all over the country have used Dart Unions for years and know the faithful service they give. Their long service record makes them attractive for the man who buys on the basis of cost per year instead of cost per union.

Get Uninterrupted Service With Dart

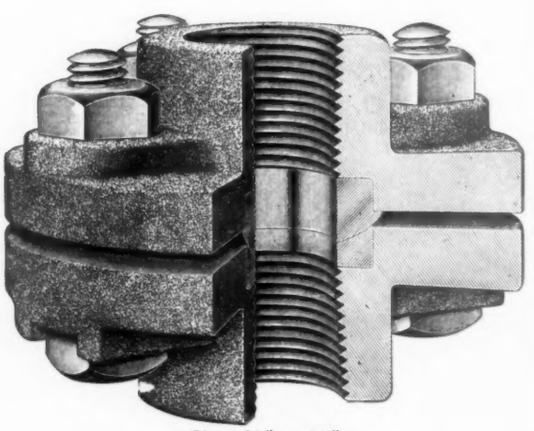
Exacting workmanship with the best materials are your assurance that Dart Unions will be everything you expect.

Two Bronze Seats

Is the reason Darts give service.

From Dart you can get a full line of Union fittings, Unions male and female. Elbow Unions male or female, Tee Unions with the Union on the run or on the outlet. A sample of any style is yours for the asking. Try them your way.

HEAVY PATTERN
STRAIGHTWAY FOR FULL FLOW
PROPERLY GROUND AND GUARANTEED
LEAK PROOF
TROUBLE PROOF
CORROSION PROOF



Sizes ½" to 12" inclusive.

E. M. DART MFG. CO.
Providence, R. I.

The Fairbanks Company
DISTRIBUTORS
See Booths 29 - 30, Texas Building

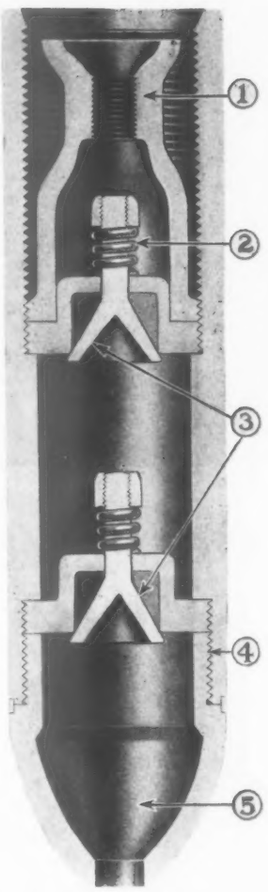
Send for your copy of our Catalog.

SMITH PRODUCTS
Used by Major Companies The World Over
—*Because They Give* PERFORMANCE

STRONG STANCLIFF SCREEN

SAVES MONEY FOR THE OIL MAN

The square wire gives a big advantage over screens where the distance between the wires is greater at the bottom than at the top, which condition causes the gauge to increase as the sand wears down the wires. The STANCLIFF SCREEN KEEPS ITS GAUGE because the distance between the wires is the same at the top and bottom. The STANCLIFF SCREEN *saves* money because it holds up longer. You *make more oil money* by using the STANCLIFF SCREEN because it SCREENS MORE OIL.



The Set Shoe shown at the left is designed to obviate the trapping of trash under the valve seat. The stream lined cone valves offer as little resistance as possible to the flow of the wash water and let small trash clear the valves without trapping it under the seat. The valves open wide, allowing anything that will go through the wash pipe to clear the valve. The cone shaped stems cause the valves to seat tightly when closed and the extra strong durable springs keep them seated. The Wash Plug is beveled to facilitate entry of the wash pipe and threaded for plugging if desired. The cast iron Guide Plug is left hand threaded and spot welded to prevent unscrewing when it is desired to mill out and deepen the hole.

THESE TONGS REVERSE WITHOUT TURNING OVER

The STANCLIFF BREAK-OUT TONGS reverse without turning over.

These tongs are designed to stand up with little cost of upkeep. Removable keys stand all the wear.

The construction is simple—two jaws and one automatic latch.

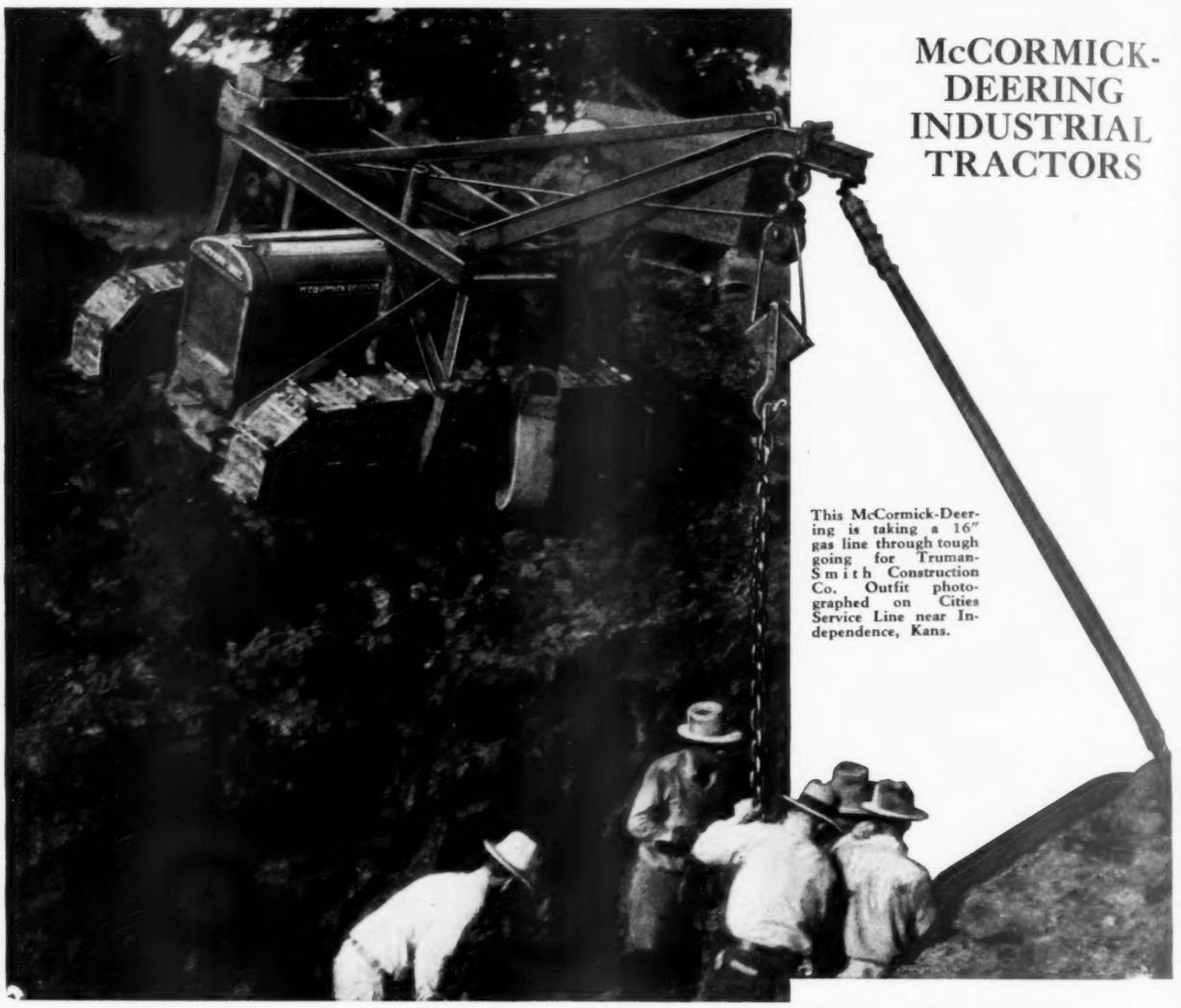
One handle works with any size jaws.

Evenly distributed pressure assures no crushing of pipe. Instant grip and release.

HOWARD SMITH COMPANY

2412 Railroad Avenue at Sawyer Street

Phone: P-0131 HOUSTON TEXAS P. O. Box 688



McCORMICK-DEERING INDUSTRIAL TRACTORS

This McCormick-Deering is taking a 16" gas line through tough going for Truman-Smith Construction Co. Outfit photographed on Cities Service Line near Independence, Kans.

See These Tractors at the OIL EXPOSITION

McCormick-Deering Industrial Tractors—which are going into the oil fields and onto pipe line rights of way by the hundreds—will be very much in evidence at the Oil Exposition, Tulsa. We invite you to visit the exhibits arranged by McCormick-Deering Industrial Tractor distributors and equipment manufacturers and see the many examples of fast-working, modern special equipment for oil field and pipe line service.

Specifications and other data will be mailed on request. Address the nearest distributor or manufacturer . . . or write direct to us. No obligation.

INTERNATIONAL HARVESTER COMPANY
OF AMERICA
606 So. Michigan Ave. *(Incorporated)* Chicago, Ill.

McCORMICK-DEERING
INDUSTRIAL TRACTORS

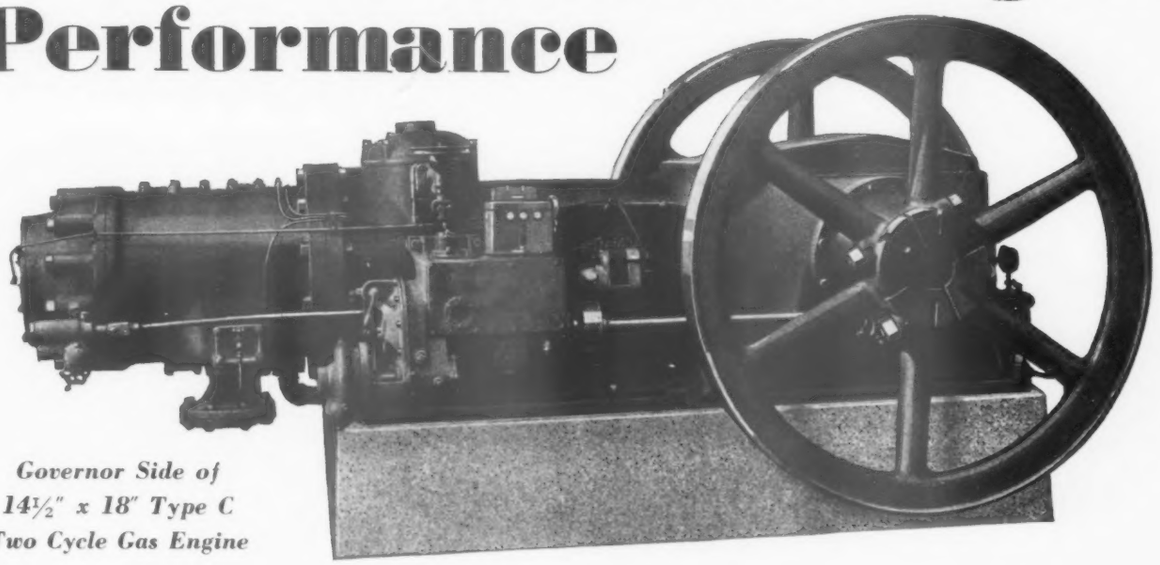
McCormick-Deering Industrial Tractor Distributors in the Oil Country:

J. D. Adams & Co., Indianapolis, Ind.
Browning-Ferris Machy. Co., Austin, Dallas, Houston and San Antonio, Texas.
Concrete Machy. & Supply Co., Los Angeles, Calif.
Cuyhoga Equipment Co., Cleveland, O.
Industrial Machy. Co., Kansas City, Mo.
H. W. Moore Equipment Co., Denver, Colorado.
Option Equipment & Supply Co., Pittsburgh, Pa.
Resistcor Engineering Corp., Tulsa, Okla.

Manufacturers of Oil Field Equipment Powered by McCormick-Deering:

Braden Mfg. Co., Tulsa, Okla.
Industrial Brownhoist Corp., Cleveland, Ohio.
Keystone Driller Co., Joplin, Mo.
Resistcor Engineering Corp., Muskogee, Okla.
W-K-M Company, Inc., Houston, Texas
Ross-Meehan Foundries, Chattanooga, Tenn.
The Shaffer Specialty Co., Tulsa, Okla.
The Star Drilling Machine Co., Akron, Ohio.
Trackson Co., Milwaukee, Wis.
Willamette-Ersted Mfg. Co., Portland, Ore.

A New Standard of Engine Performance



Governor Side of 14½" x 18" Type C Two Cycle Gas Engine

Reid

This 14½" x 18" Type C Gas Engine sets a new standard of appearance and performance among oilfield engines. The long, fine lines and self-contained construction say "Power" and "Simplicity" even to the untrained eye. A glance at the engine in operation confirms this impression and makes a mental note of "Smoothness" and "Flexibility."

POWER: The engine is rated by cylinder size and develops 80 HP at 180 rpm and 135 HP at 400 rpm.

FLEXIBILITY. Acceleration from the low speeds to the highest is easily accomplished in record time without visible effort, and a steady, continuous power is obtained regardless of varying loads.

SMOOTHNESS: Whether the engine is picking up, slowing down, or running at a set speed, it hums along with a rhythm as uniform and quiet as a cat's purr.

SIMPLICITY: The working parts are few and simply constructed, requiring little attention from the operator.

Come and see this engine installed and operating on the Reid location. Drake Avenue, Tulsa Exposition.

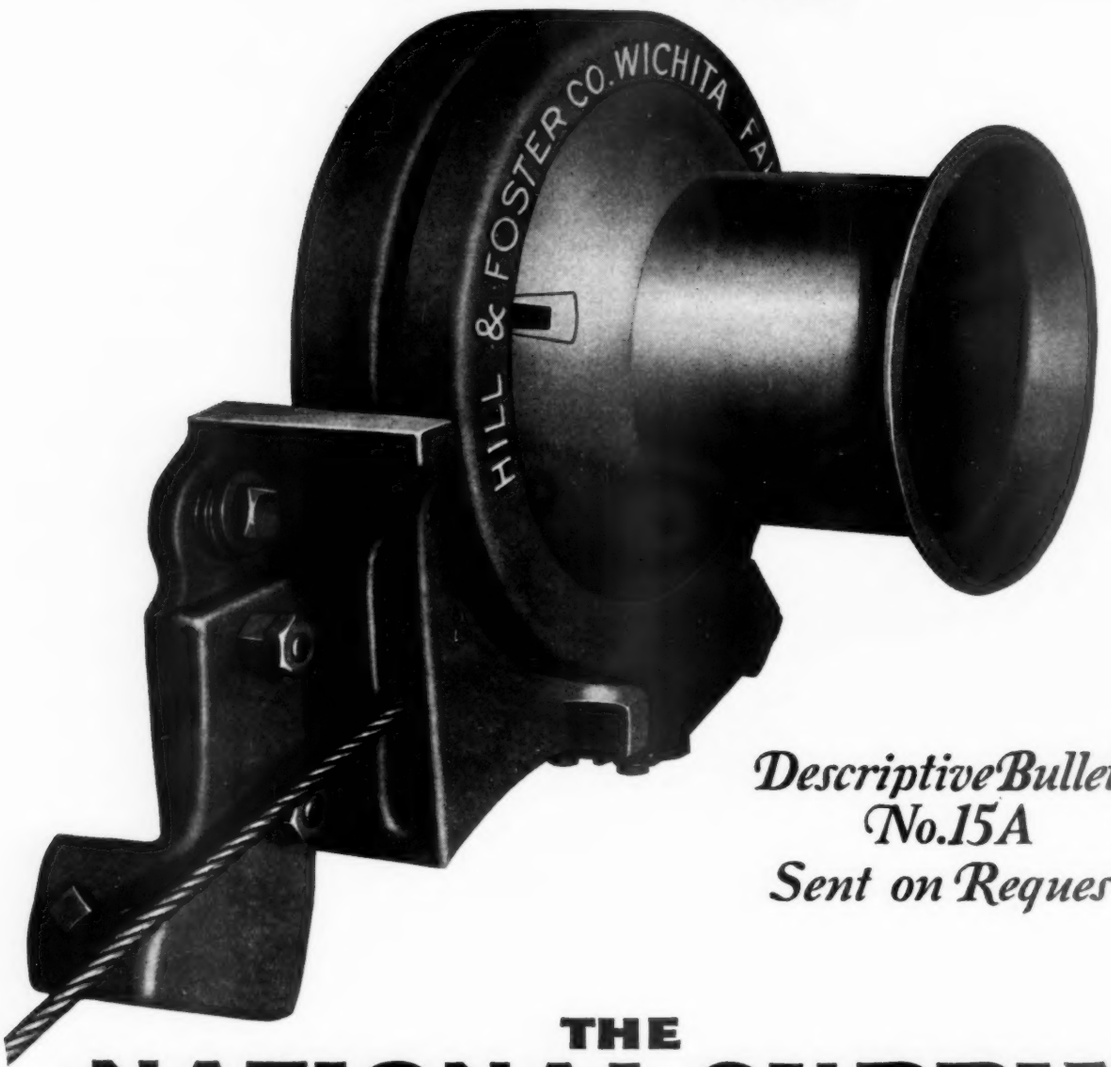
JOSEPH REID GAS ENGINE COMPANY
Oil City, Pennsylvania, U. S. A.

BRANCHES—Marietta, Newark and Logan, Ohio; Charleston, W. Va.; S. R. Shoup, 724 Board of Trade Building, Los Angeles, California. EXPORT SALES REPRESENTATIVE—Oil Field Equipment Co., Inc., 30 Church St., New York City.

DISTRIBUTORS—Frick-Reid Supply Corp., Pittsburgh, Pa., and Tulsa, Okla., Distributors for Bradford and Pittsburgh, Pa., Muskegon and Mt. Pleasant, Mich., Kentucky, Oklahoma, Kansas, Texas, Arkansas, Louisiana, and Wyoming; R. B. Moore, Bolivar, N. Y.; distributed in California by The Republic Supply Co., of California, Los Angeles, Calif.

HILL & FOSTER AUTOMATIC CATHEAD

TYPE "M"



Descriptive Bulletin No. 15A Sent on Request

THE NATIONAL SUPPLY COMPANIES

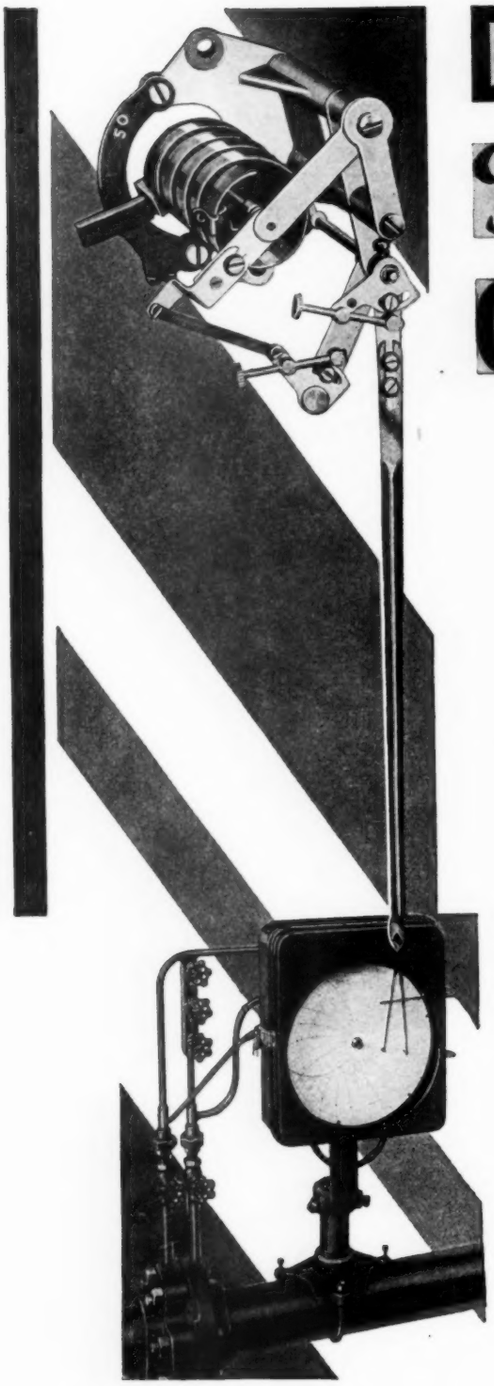
GRIT
GREASE
DAMAGE
TROUBLE
DIRT

Insist on COLONA
PIPE THREAD PROTECTORS

Stop all dirt and grease and grit from injuring your threads and requiring laborious cleaning—*stop* all crashes and jars from damaging the pipe ends and causing trouble and delays—*stop* paying for unprotected pipe.

Insist on Colona Protectors—they are your assurance of good, clean, usable, sharp-threaded pipe.

PITTSBURGH SCREW & BOLT CORP.
COLONA DIVISION PITTSBURGH, PENNA.



DIFFERENT
The EMCO
ORIFICE METER

Take the Static Pressure Element in the EMCO Orifice Meter. It's different - - - different because EMCO engineers have made another advanced step in design.

Experience, experiment and research on the part of EMCO gives the Gas Industry the orifice meter for which it has asked.

Investigate the EMCO Orifice Meter thoroughly. Convince yourself that it is the finest that can be had - - - then install EMCOS in your pipe lines.

EMCO - - - builders of the largest and only complete line of meters and regulators in the world.

PITTSBURGH EQUITABLE METER COMPANY

Main Office and Works—Pittsburgh, Pa.

New York City, Chicago, Ill., Tulsa, Okla., Dallas, Texas, Columbia, S. C., Salt Lake City, Seattle, Wash., Houston, Texas, Los Angeles, Calif., Kansas City, Mo.

EMCO METERS AND REGULATORS

"We're all set, Frank"—

"Getting good delivery on that Band Wheel and the Irons for No. 12 . . . . You know 'Parkersburg' is locating a warehouse with complete stock here. Yeah, 14-inch face is right . . . . No, it's all-steel, the newest thing out. . . . Yes, all the larger sizes can be split in half for moving. . . . That Prosperity bunch uses 'em on all their Rigs, in fact those fellows won't have anything but Parkersburg Wheels.

Okay, see you Saturday."

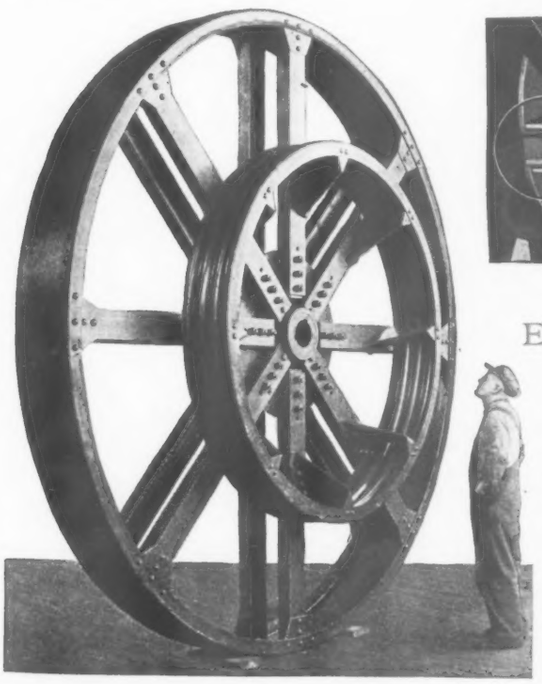
"Frank" will be interested in this Band Wheel hub construction feature. It's sound engineering, to give permanent rigidity and perfect balance. It assures absolute true-running wheels and longer life. It's one of the reasons Parkersburg Wheels stand the gaff of the heaviest service. It makes them the better investment.

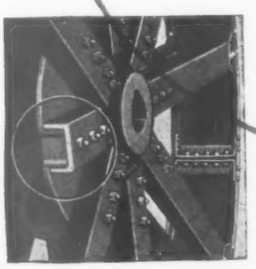
Better see one in operation for yourself. A word from you, and our representative will arrange it.

PARKERSBURG PRODUCTS

Steel Wheels (Bull, Band and Calf)
Rig Irons
Steel Derricks and Crown Blocks
Chain-Driven Sand Reels and Bailing Reels
All-Steel Standard Rigs
Bolted Steel and Aluminum Tanks
Portable Drilling Machines (Wood and Combination-Steel)
Miscellaneous Drilling Equipment
Steel Walking Beams and Pitmans

We subscribe to A.P.I Standards





THE PARKERSBURG RIG AND REEL CO.

TRADE MARK REG.

BOOTHS No. 74-75 Texas Bldg.

Extra Strength

means Extra Service with those heavy ship channel spokes bolted securely to cast bosses on the flanged hub of Parkersburg Band Wheels.

Made in two types. The Type "N" with Rolled Steel Face (as shown) and Type "M" with Adjustable Wood Face. Made in 10, 11, 12 and 14 Foot Diameters with double or triple groove tug rims as desired. Ask the nearest Parkersburg representative.

THE PARKERSBURG RIG AND REEL COMPANY

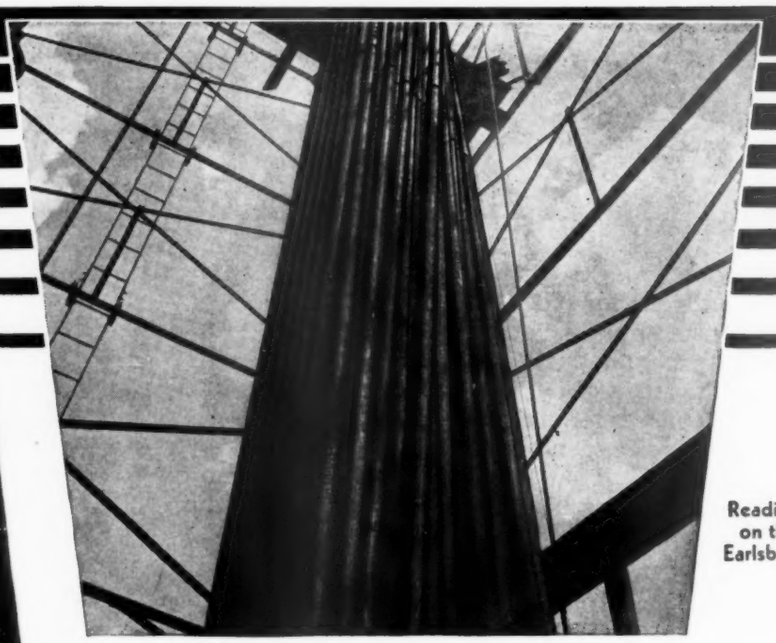
Main Offices and Works

PARKERSBURG, WEST VIRGINIA

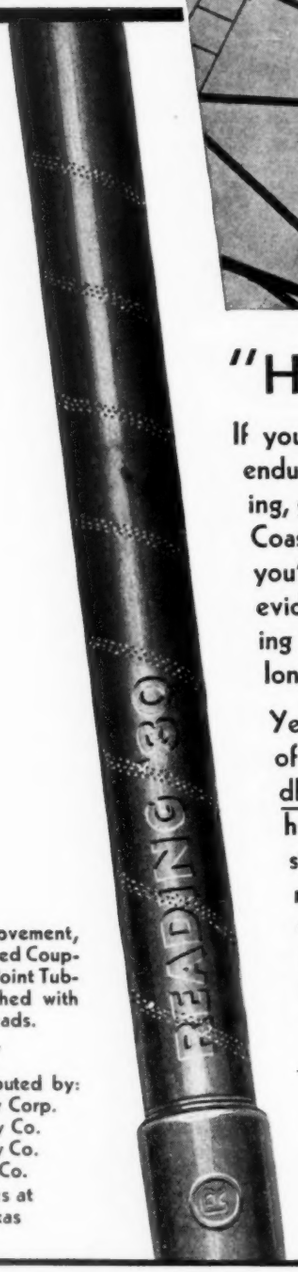
NEW YORK - TULSA - FT. WORTH - HOUSTON

Branches In All Active Fields

189-A



Reading Tubing on the job at Earlsboro, Okla.



"Hard Boiled" Evidence

If you want to know the facts about the superior endurance of Reading 5-Point Galvanized Tubing, go to the toughest fields—Seminole—Gulf Coast—El Dorado, Kansas—West Texas. Here you'll find a convincing mass of "hard boiled" evidence—evidence which shows that Reading 5-Point Tubing lasts from two to five times longer than ordinary tubing!

Yet there's even better proof! Being made of the original, time-tested, Genuine Puddled Wrought Iron, Reading 5-Point Tubing has a record of rust-resistance which stretches back for generations! There's no guesswork about the service this pipe will give. Insist on getting Genuine Puddled Wrought Iron, identified by the Reading name and cut-in spiral knurl mark.

As an added improvement, all Reading Galvanized Couplings for Reading 5-Point Tubing are now furnished with galvanized threads.

Reading pipe distributed by:
Frick-Reid Supply Corp.
Bradford Supply Co.
Republic Supply Co.
Superior Tube Co.
Our own stocks at Houston, Texas

READING IRON COMPANY
Reading, Pennsylvania

Atlanta . Baltimore . Cleveland . New York
Philadelphia . Boston . Cincinnati . St. Louis
Chicago . New Orleans . Buffalo . Houston
Tulsa . Seattle . San Francisco . Los Angeles
Detroit . Pittsburgh . . Kansas City

5 POINT PIPE
READING
GENUINE PUDDLED WROUGHT IRON
DEFIES VIBRATION · DEFIES CORROSION · WELDS BETTER · HOLDS COATINGS · THREADS EASILY

GENUINE PUDDLED WROUGHT IRON
READING PIPE
DIAMETERS RANGING FROM 1/8 TO 20 INCHES

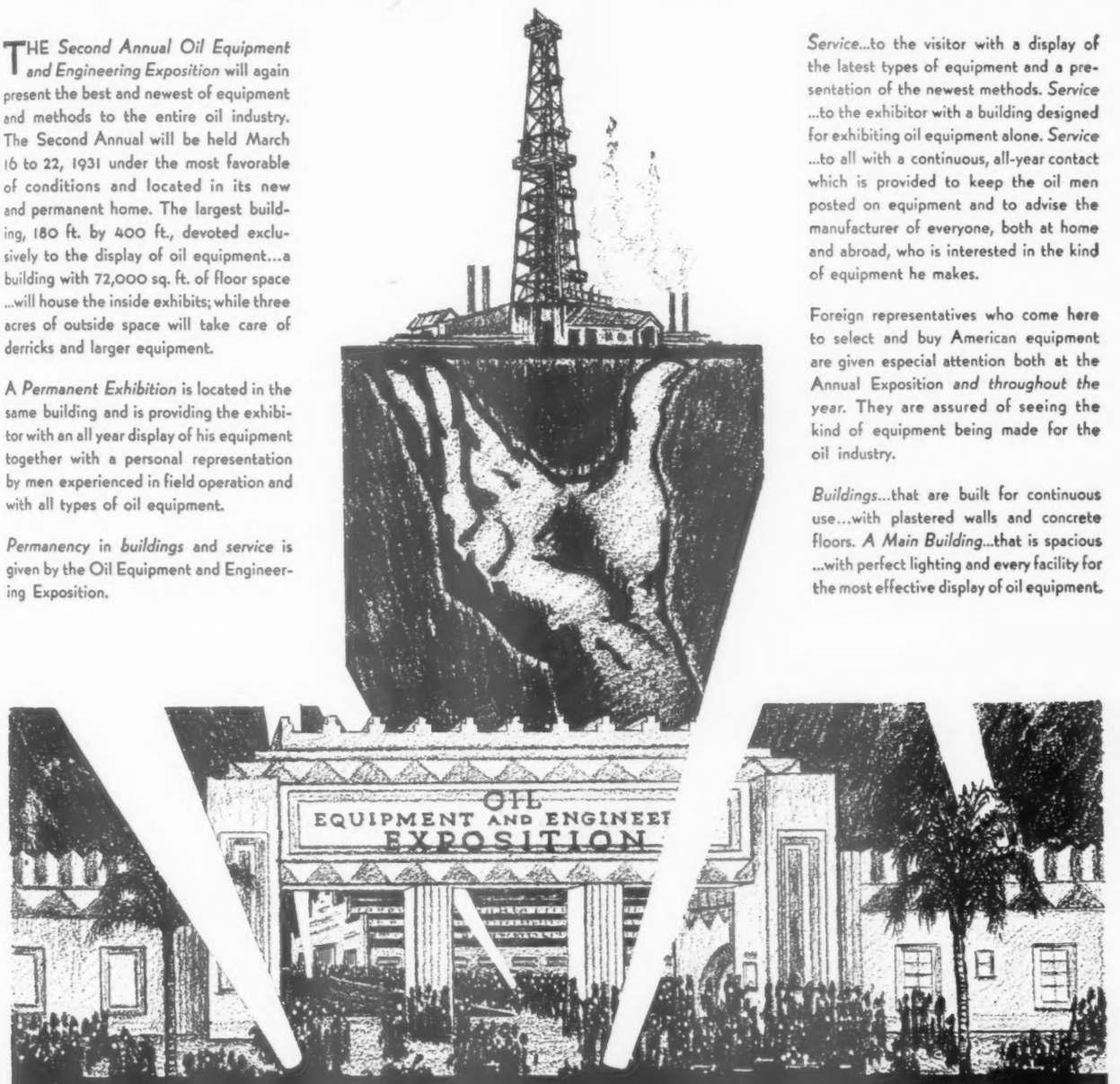
Science and Invention Have Never Found a Satisfactory Substitute for Genuine Puddled Wrought Iron

AN ENGINEERING EXPOSITION FOR THE WORLD'S OIL INDUSTRY

THE *Second Annual Oil Equipment and Engineering Exposition* will again present the best and newest of equipment and methods to the entire oil industry. The Second Annual will be held March 16 to 22, 1931 under the most favorable of conditions and located in its new and permanent home. The largest building, 180 ft. by 400 ft., devoted exclusively to the display of oil equipment...a building with 72,000 sq. ft. of floor space ...will house the inside exhibits; while three acres of outside space will take care of derricks and larger equipment.

A *Permanent Exhibition* is located in the same building and is providing the exhibitor with an all year display of his equipment together with a personal representation by men experienced in field operation and with all types of oil equipment.

Permanency in *buildings* and *service* is given by the Oil Equipment and Engineering Exposition.



Service...to the visitor with a display of the latest types of equipment and a presentation of the newest methods. *Service* ...to the exhibitor with a building designed for exhibiting oil equipment alone. *Service* ...to all with a continuous, all-year contact which is provided to keep the oil men posted on equipment and to advise the manufacturer of everyone, both at home and abroad, who is interested in the kind of equipment he makes.

Foreign representatives who come here to select and buy American equipment are given especial attention both at the Annual Exposition *and throughout the year.* They are assured of seeing the kind of equipment being made for the oil industry.

Buildings...that are built for continuous use...with plastered walls and concrete floors. *A Main Building*...that is spacious ...with perfect lighting and every facility for the most effective display of oil equipment.

THE SECOND ANNUAL

OIL EQUIPMENT & ENGINEERING

MARCH 16 TO 22, 1931

LOS ANGELES EXPOSITION CALIFORNIA

AND— THERE IT WAS!

The subject of repainting a farm of 80's was up. And—with it, the subject of costs.

"The work ought to be done, but that last job cost us a bunch of money. — Wonder if we can't spray 'em ourselves and hold down our costs," queried the Vice-President.

"Maybe so," responded the Superintendent.

"Let's look into it," said the V. P.

A few minutes later found the Superintendent digging into his old blue copy of THE COMPOSITE CATALOG OF OIL FIELD AND PIPE LINE EQUIPMENT.

"Spray" — "Sprayers" — "Spray-Guns" he was saying as he turned the pages in the classified index.

On Page—320

"YEP—There it is on page 320, and some dope that will help on figuring out the cost. Darned if this book hasn't got everything in it."

If YOU do not have a copy of this 1930 edition of this COMPOSITE CATALOG, you'll find one near you.
USE IT!

Catalog Division

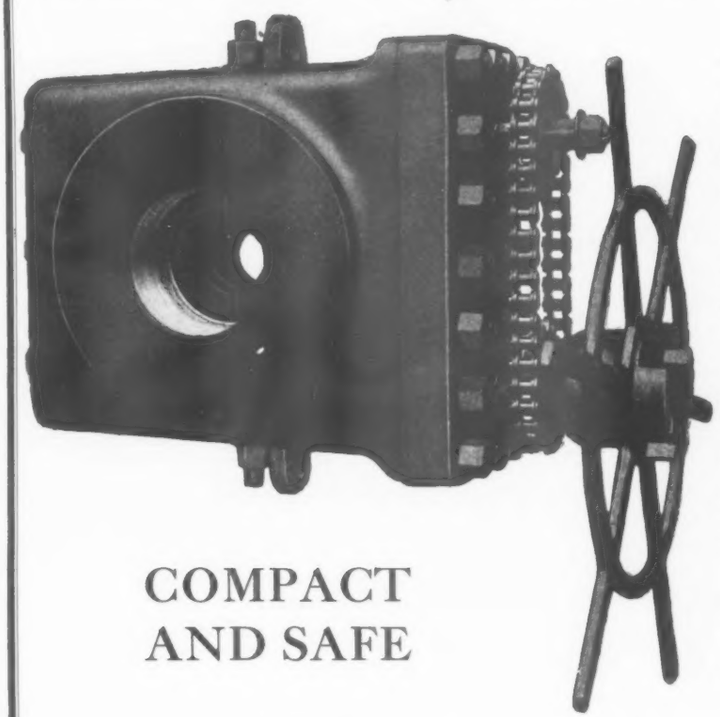
GULF PUBLISHING COMPANY

3301 BUFFALO DRIVE HOUSTON, TEXAS, U. S. A.

PREVENT BLOWOUTS

WITH THE

Shaffer Cellar Control Gate



COMPACT
AND SAFE

This simple, easily operated device is positive in action—a complete unit in itself, that can be adapted to shut off around drill pipe, casing or can be made into a master gate by using a complete shut off arrangement.

Two gates—one with rams for drill pipe—the other with rams for shut off—give protection to the well and only take up about 36 inches of space in the cellar.

Two recent completions which used this equipment were the Superior Huffman No. 1, and the Associated Whepley No. 1 at Kettleman Hills.

TESTED UP TO 6000 lbs. Cold Water Pressure

Most sizes of the Shaffer Cellar Control Gate will give a complete shut-off in 17 in. space. Made in all sizes from 7″ to 21½″.

SHAFFER TOOL WORKS

BREA *CALIF.*

TULSA—Fluid Packed Pump Co., *Mid-Continent*
HOUSTON—Robt. J. Miller Co.
FOREIGN—Oil Well Supply Co.

MAIL THIS COUPON

SHAFFER
TOOL WORKS
Brea, California.

Gentlemen: Send Me, Without Oligation, a Copy of Your New Illustrated Cellar Control Gate Booklet.

Name .....
Address .....
.....
Position .....
Company .....

O.W. 1

New Super-BORIUM ELECTRIC—

THE MOST NOTEWORTHY DEVELOPMENT SINCE DIAMOND SUBSTITUTES WERE FIRST INTRODUCED

STOODY COMPANY... first to introduce hard facing... first to introduce the diamond substitute, BORIUM... NOW, first to develop a processed SUPER BORIUM that can be applied with the electric arc as well as with the Oxy-acetylene and the atomic hydrogen torch. When applied by any of these methods this NEW SUPER BORIUM is protected from oxidation and surface deterioration. Furthermore, by the chemical action of this NEW SUPER BORIUM'S protective coating a perfect bond is insured between the BORIUM, the tie-in metal and the parent metal.

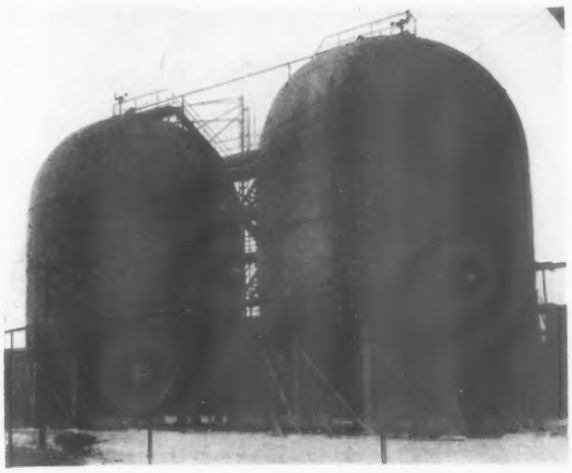
BE SURE AND SEE THIS NEWEST STOODY PRODUCT AT BOOTHS 44 AND 45 TEXAS BUILDING OF THE INTERNATIONAL PETROLEUM EXPOSITION OR WRITE FOR FURTHER DETAILS.

STOODY COMPANY

Manufacturers of

Welding Rod ◆ Alloy Steels ◆ Equipment

WHITTIER, CALIFORNIA



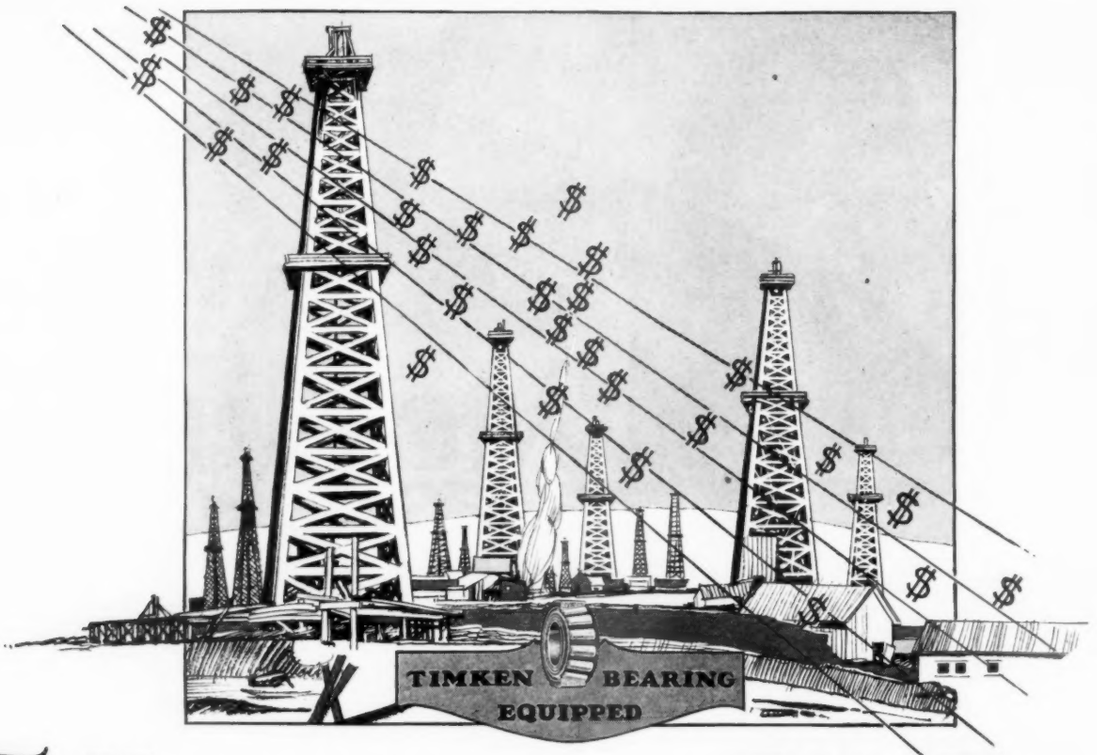
McClintic Marshall

Steel Construction

At your service... one of America's foremost steel fabricators... whose experience has been gained by world-wide service... whose activities have embraced the most difficult and exacting steel construction problems... whose large organization permits the acceptance of undivided responsibility... whose facilities include the largest steel plate fabricating plant in the United States.

McClintic-Marshall Company

PITTSBURGH, PA., *Offices in Principal Cities*



The Keynote of the Oil Show

"PRODUCTION ECONOMY" is the key-note of the Oil Show and the oil fields.

In tapping the world's oil wealth, and in keeping the rich oil flowing to satisfy modern needs, American oil operators have displayed the same initiative and progressiveness which have been responsible for America's world-wide industrial predominance.

And in no division of American industry have machinery manufacturers shown broader, more penetrating vision, keener judgment and greater co-operative spirit than the builders of modern oil field equipment.

This is proved and re-proved at each successive Oil Show, where improvements and refinements in mechanical equipment of all types continually point the way to the production of a greater and greater volume of oil per dollar of investment.

Timken is proud to have the privilege of contributing to this outstanding efficiency through the medium of Timken Tapered Roller Bearings.

Spaces No. 72 and 73 Texas Building, Seventh International Petroleum Exposition and Congress, Tulsa, Okla., October 4-11.

Meeting all modern anti-friction requirements in drilling and pumping units, gas and steam engines, countershafts, speed reducers and all other oil field machinery, Timken Bearings save power and lubricant, carry radial, thrust and combined loads, promote attention-free dependability, slash maintenance costs and prolong machine life.

Thus "Timken Bearing Equipped" has surged on and on . . . sweeping over the oil fields in a rapidly mounting wave of economy . . . helping operators to extract more profit from every barrel of oil.

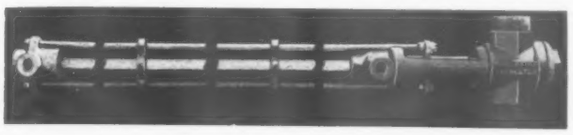
There are now more Timken Bearings in use in the oil fields than all other makes of anti-friction bearings put together.

As you go through the 1930 Oil Show, make it a point to observe how much of the machinery on exhibition bears the modern symbol of anti-friction protection, "Timken Bearing Equipped" —the key-note of production economy. The Timken Roller Bearing Company, Canton, Ohio.

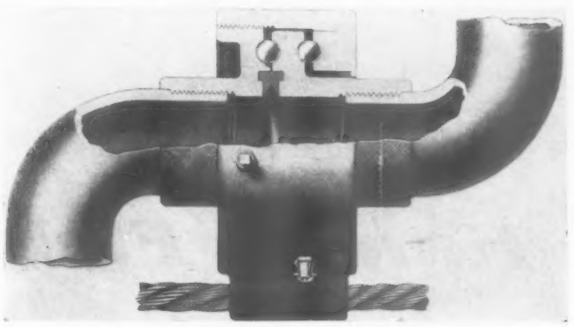
TIMKEN *Tapered Roller* **BEARINGS**

Two new specialties....and a dozen others to be displayed by MacClatchie in Booth 110, Oklahoma Bldg., at the Oil Show

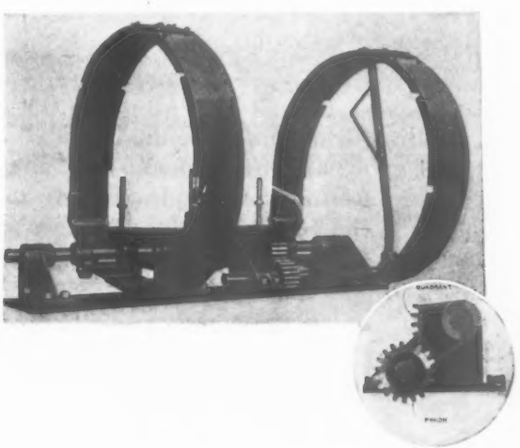
. . . the boiler feed-water regulator (new)



. . . the steel rotary hose (new)

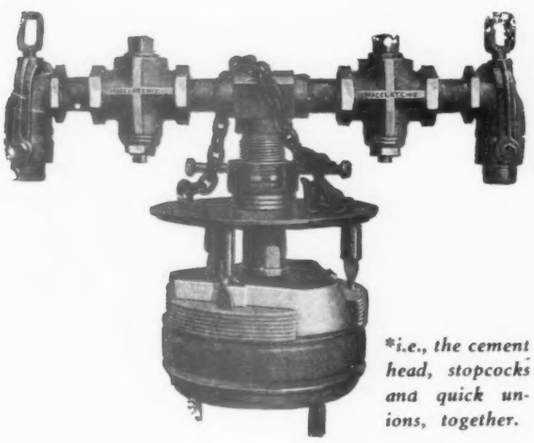


. . . the geared draw-works brake



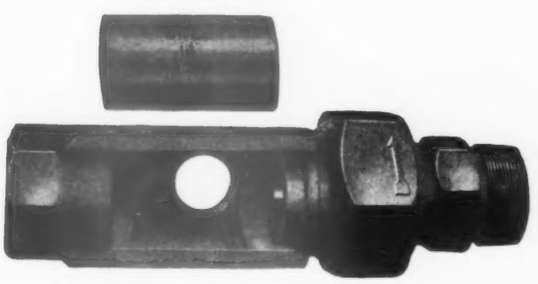
. . . of course, the famous mud pump valve

. . . the cementing combination*

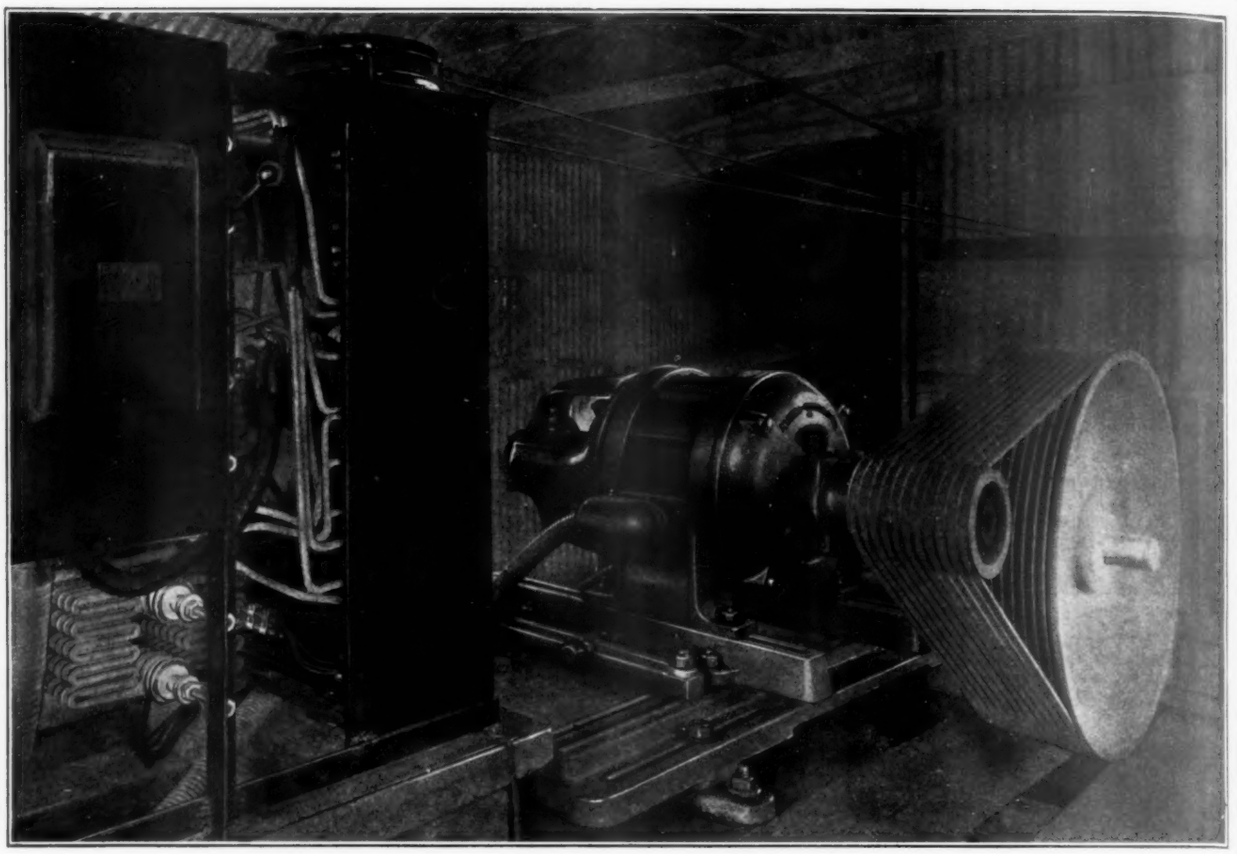


**i.e., the cement head, stopcocks and quick unions, together.*

. . . the flow nipple and bean



. . . along with the rotary under-reamer, the automatic safety cathead, the valve seat and pump liner pullers and other MacClatchie Quality Products. You are cordially invited to visit our booth. MacClatchie Manufacturing Co., Compton, Calif., with branches operating in Houston, Ventura and Bakersfield.



Pumping in the Kansas Field

—in Kansas, as in Texas, Oklahoma and California, many wells are pumped with Allis-Chalmers equipment.

Products for the Oil Industry

Single and Double Reduction Units
Texrope Drives
Motors and Control
Drilling-Pumping-Pipeline
Transformers
Centrifugal Pumps
Pipe Line Pumps
Tractors

OIL FIELD OFFICES

DALLAS
HOUSTON
TULSA
NEW ORLEANS
SHREVEPORT
KANSAS CITY
DENVER
LOS ANGELES
SAN FRANCISCO

This typical Allis-Chalmers installation consists of a 20/50 h.p., 600/1200 r.p.m. oil well motor, control, and Texrope driven single reduction unit in pumping service at Valley Center, Kansas.

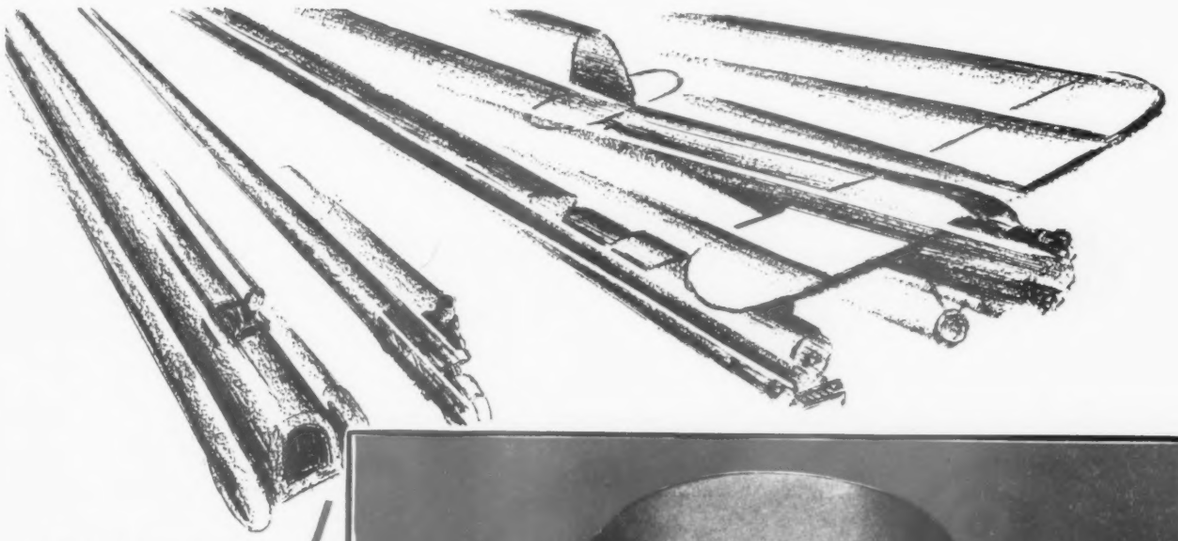
The motor, of special design and of sturdy construction, is particularly fitted to withstand the severe service encountered in oil field operations. Cast steel frames, short stiff shaft, rigid bearing housings, and sealed stator and rotor windings, all add to its life and dependability.

The control, mounted in angle iron frame, is of ample capacity to carry the heaviest loads and has unusually heavy terminals and connections.

Allis-Chalmers field men are ready to help in selecting the proper motor and control for your requirements. Call or write the nearest office.

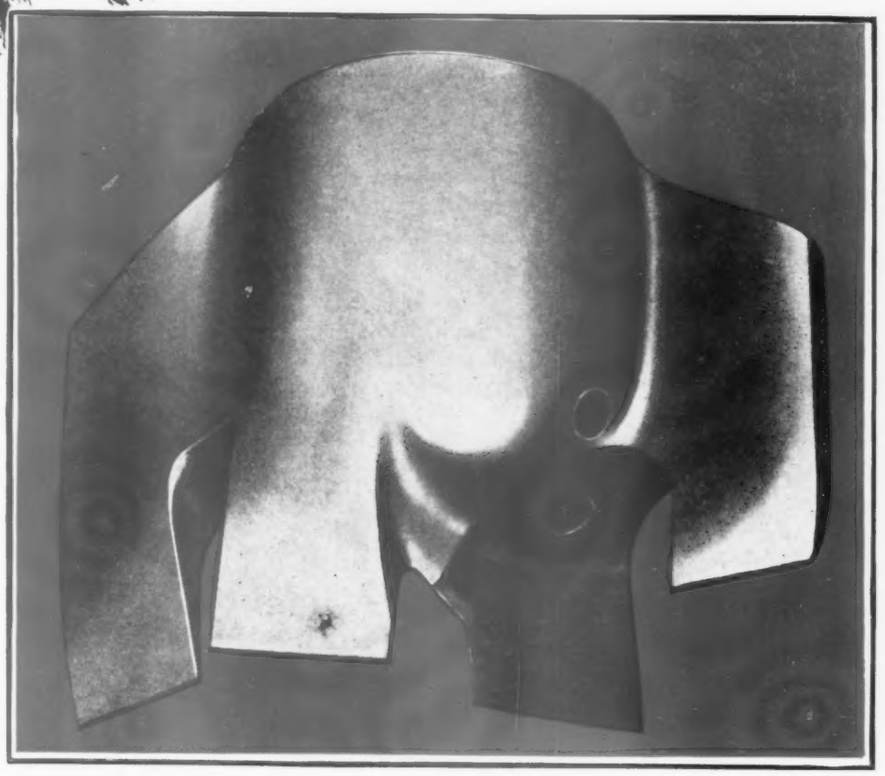
ALLIS-CHALMERS MANUFACTURING COMPANY
MILWAUKEE, WISCONSIN

ALLIS-CHALMERS MOTORS



SPEED!

...a record-maker in its own field



Elliott DRILLING BIT

This new Elliott Drilling Bit has set the pace in hole making performance, in many instances, since its recent introduction.

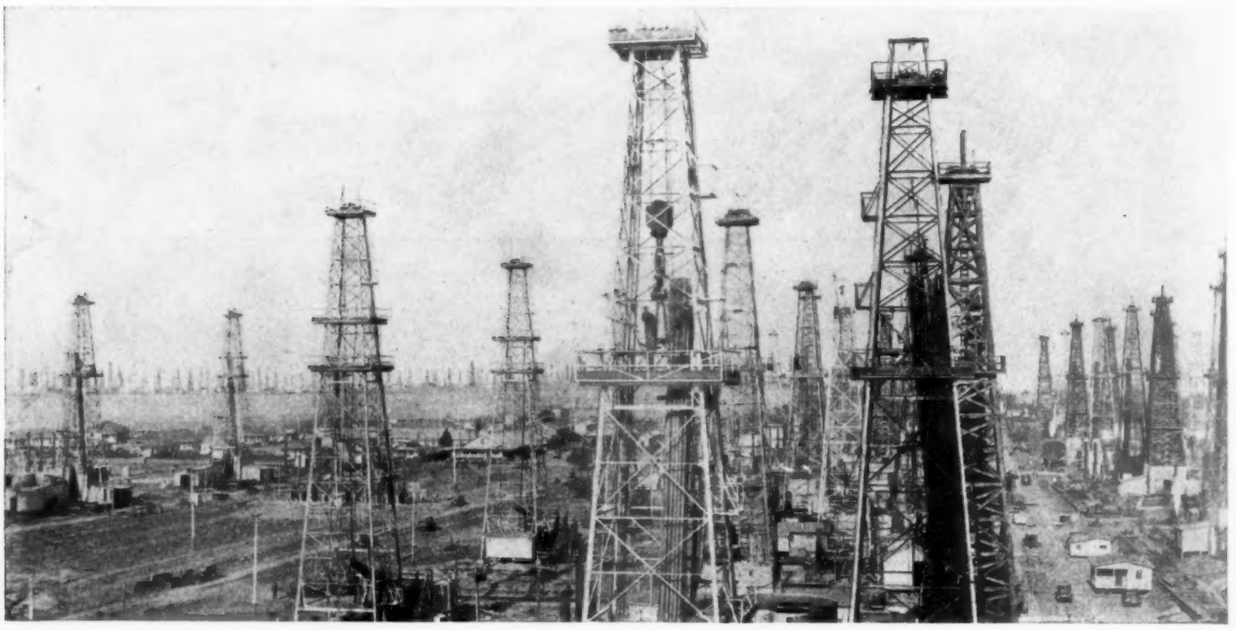
Runs in tough, sticky, and hard digging (not properly classed as rock bit digging) prove it particularly adaptable for this class of service; its use resulting in high speed, efficiency, economy of power, and smooth running.

Learn its many distinct advantages. Send for bulletin.

Elliott
CORE DRILLING COMPANY
4731 East 52nd Drive
LOS ANGELES, CALIFORNIA.

Export Offices: 150 Broadway, New York

Strength that Endures
IN THE DEEPEST HOLES



THE strength and toughness of Youngstown drill pipe, tubing and casing has been proved beyond question in thousands of wells—among them many of the world's deepest.

Every length of this sturdy pipe is carefully fabricated to withstand the rigorous hardships of deep drilling. It is high both in tensile strength and resistance to collapsing pressures; it resists the corrosive action of soil and atmosphere; and it withstands the rough handling of field service.

The use of Youngstown seamless tubular goods affords the greatest protection to drilling investment—a statement that has been proved by many years of Youngstown field performance.

THE YOUNGSTOWN SHEET AND TUBE COMPANY

One of the oldest manufacturers of copper steel, under the well-known and established trade name "Copperoid"

General Offices—YOUNGSTOWN, OHIO

Be sure to visit the exhibit of The Youngstown Sheet and Tube Company at the Tulsa Exposition, October 4-11. See the oil fields in miniature, with machinery in motion and all equipment, in the Continental Supply Company building.

CONTINENTAL SUPPLY CO.—1501 Locust St., St. Louis, Mo.
YOUNGSTOWN STEEL PRODUCTS CO.—3000 Santa Fe Ave., Los Angeles, Cal.
INTERNATIONAL SUPPLY CO.—Tulsa, Okla.
REPUBLIC SUPPLY CO.—2122 E. 7th St., Los Angeles, Cal.

YOUNGSTOWN

GALVANIZED SHEETS PROTECT ∵ ∵ SAVE WITH STEEL

AMERICAN
STEEL & WIRE COMPANY
WIRE ROPE
(ON THE YELLOW REEL)

ALWAYS DEPENDABLE in Oil Field SERVICE

Here is the Oil Field's most popular rotary drilling and casing line. This construction of wire rope is composed of flattened strands.

By means of Flattened Strand Rope a much larger per cent of the surface of the strand is put in contact with the sheave or drum, in fact the wearing surface is from 100 to 150 per cent greater than in ropes of other construction. Our engineers in the oil country are at your disposal. Let them in on your wire rope problems.

Type "B" Flattened Strand Rotary Drilling and Casing Line

AMERICAN STEEL & WIRE COMPANY

SUBSIDIARY UNITED STATES STEEL CORPORATION

CHICAGO - NEW YORK
And All Principal Cities
STOCKS
CARRIED THROUGHOUT ALL OF THE OIL FIELDS

Visit us at the TULSA SHOW

BOOTHS
126 - 127
TEXAS BLDG.

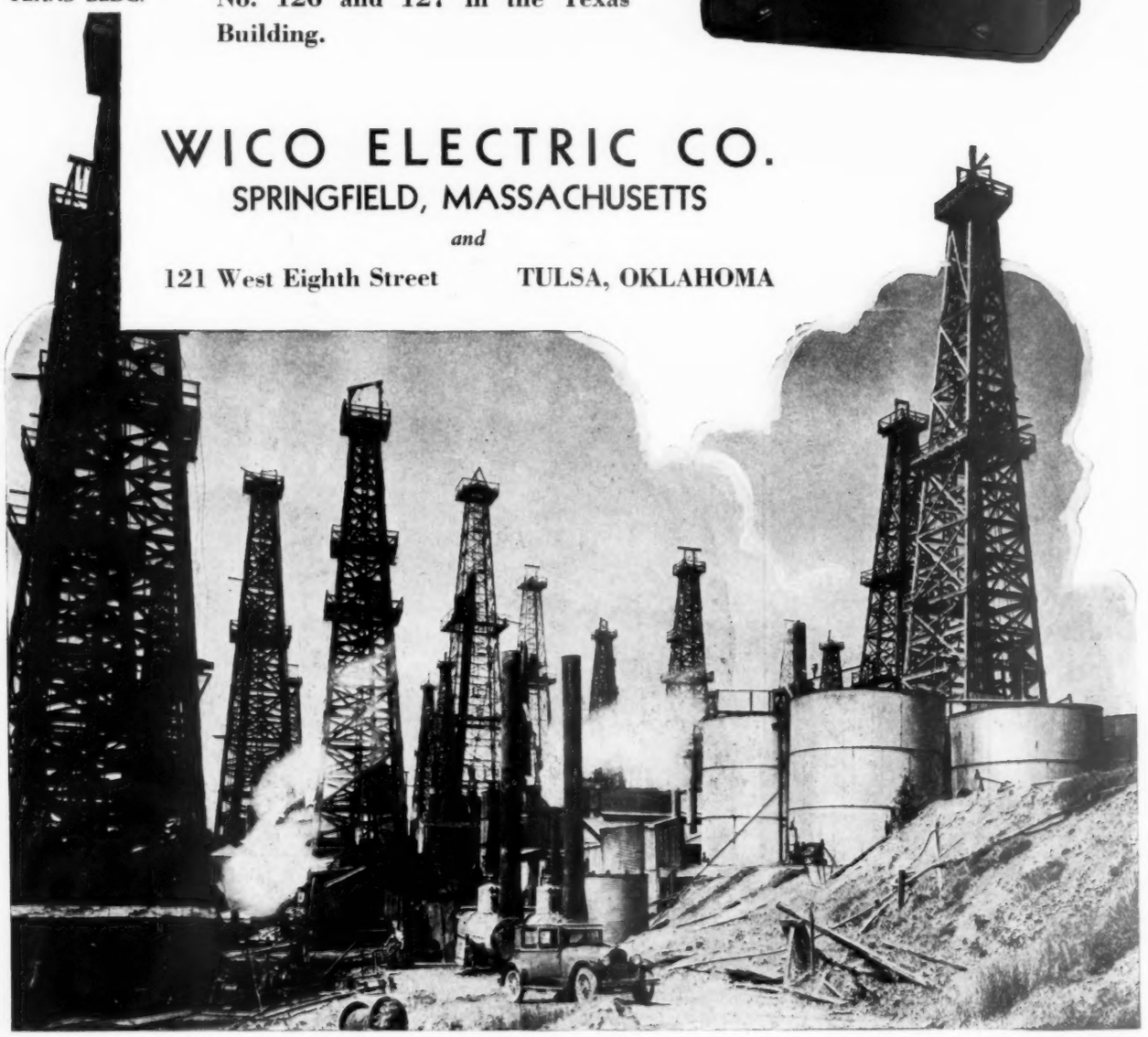
Our exhibit will show why WICO Magnetos are the most reliable form of engine ignition ever developed. Come and see the reasons why WICOS are so sturdy and so long-lived. Let us tell you what WICO field service and our Tulsa Branch mean to you. Our space is No. 126 and 127 in the Texas Building.

WICO ELECTRIC CO.

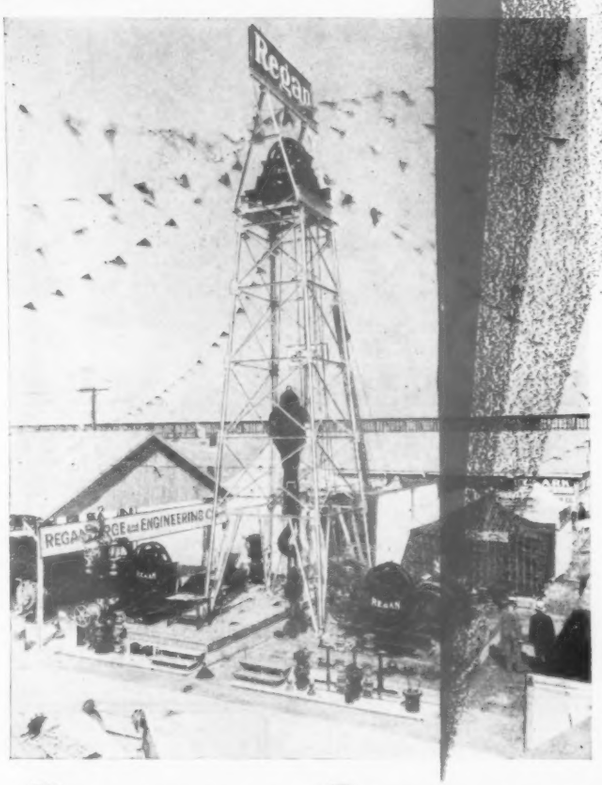
SPRINGFIELD, MASSACHUSETTS

and

121 West Eighth Street TULSA, OKLAHOMA



meet Regan at Tulsa



Bringing to the Tulsa Exposition the latest types of drilling and control equipment Regan again presents the outstanding exhibit. Several new devices will be shown for the first time and are expected to create a sensation among drillers and production men. Don't miss the "hot spot" of the entire show — the Regan Exhibit. It's worth traveling across the continent to see.

The Regan Exhibit shown here, the largest and most interesting last year, will be eclipsed in size and attraction by this year's exhibit. Location—Lot E.

Regan
Forge & Engineering Co.
Oil Field Equipment
Plant and General Offices:
SAN PEDRO (Los Angeles Harbor) CALIFORNIA, U. S. A.

New York Office:
75 West Street,
Wm. Braat, Manager

Mid-Continent Office:
Dallas, Texas
501-2 Marvin Building

Representatives:
OKLAHOMA CITY, OKLA.
2420 W. 21st Street

PECOS, TEXAS
P. O. Box 444

MARACAIBO, VENEZUELA
Wm. Adams, care Amer. Consul

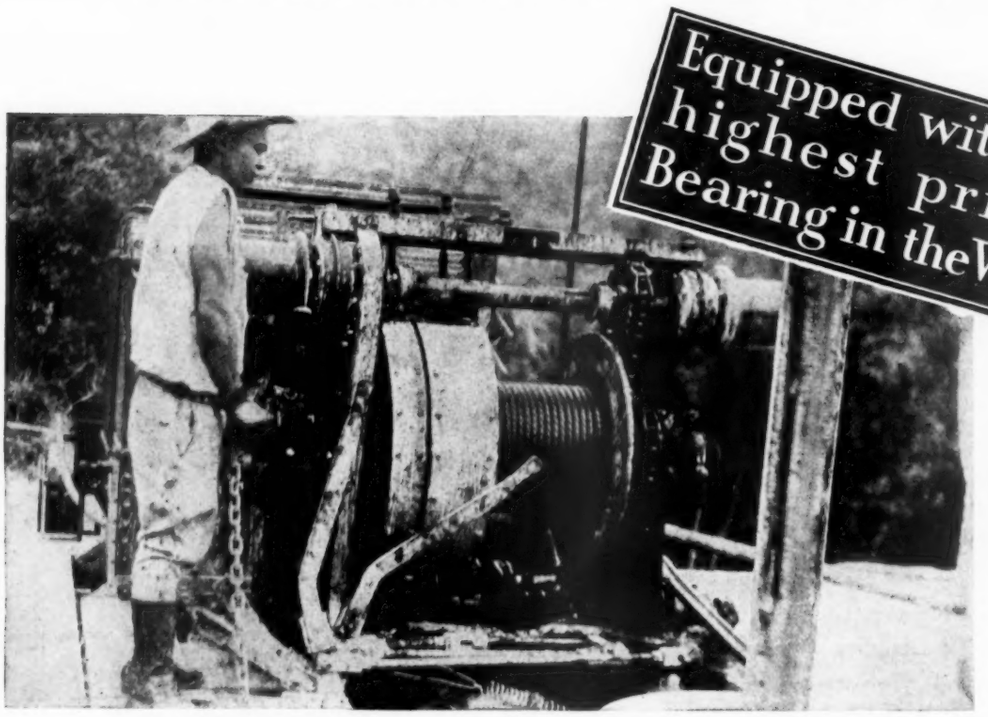
PREMIERE SHOWING OF NEW EQUIPMENT

Regan Tubing Gas Controller
Regan Adjustable Tubing Head
Regan 6-Sheave Traveling Block
Regan 9-Sheave Crown Block
Regan Snubbing Device

NEW 1931 CATALOGS READY FOR DISTRIBUTION

ANOTHER MANUFACTURER IN THE OIL INDUSTRY THAT USES SKF BEARINGS

SHELDON MACHINERY CORPORATION



IT'S PERFORMANCE . . . NOT PRICE . . . THAT INDUCES SHELDON TO USE SKF

"GOOD engineering like good breeding in a horse produces a reserve stamina that cannot be equalled with poorer materials at the start," says the Sheldon Machinery Corporation and continues, "our portable rotary drilling machine is equipped with SKF Bearings . . . the highest priced bearings in the world." This machine was designed and built for production drilling to 2,500 feet. In several instances it has finished up wells with 6-5/8" bits to depths of over 4,000 feet.

Sheldon states, "the machine is an exceptionally light unit for the work it does. In order to secure light weight many of these parts have to move at relatively high speed. This requires unusually good lubrication and bearings. The Sheldon Machinery Corporation, appreciating the worth of SKF Bearings, has used them throughout." Where the tough jobs of the oil fields must be successfully performed there is no doubt of what bearings to use . . . SKF are certainly preferred . . . regardless of price.

See the SKF EXHIBIT *at the* International Petroleum Exposition Tulsa, Okla., Oct. 4 to 11 *Spaces Nos. 14 & 15*

SKF INDUSTRIES, INC., 40 East 34th Street, New York, N. Y.

2599

EQUIPPED WITH THE HIGHEST PRICED BEARING IN THE WORLD

Means just this

SKF

Ball and Roller Bearings

That the manufacturers whose product is illustrated above preferred to pay more for their bearings and less for servicing or replacing them. They preferred to pay a higher price in the beginning than many times this higher price in the end. And, finally, they preferred to economize by using SKF bearings because they are made to do their job, not to fit a price list.

New firm of "FISHING" EXPERTS *enters Oklahoma and nearby fields*

Above illustration shows SOTCO Hydraulic Knuckle and Wall Hook ready to run in well in Oklahoma City. This is among the SOTCO Tools used by Famos Oil Well Fishing Company, Ltd., whose recent establishment is here announced. Mr. E. E. Pryor, well known operator of SOTCO Fishing Tools, is shown at the right.

4 Experienced Capable Men On Constant Call, *Night and Day . . .*

EQUIPPED with plenty of experience and "knack for their jobs", in addition to a full line of SOTCO Fishing Tools—the tools that never fail to get the "fish"—this new outfit is a mighty good one to "tie to" for future needs. Call and meet the boys. You'll find them on "Supply Row", Oklahoma City.

Every man connected with the Famos Oil Well Fishing Company is a seasoned veteran, bearing an enviable record for successful work with SOTCO Tools. They know their "fish"—and there's no job too tough for them.

File this ad NOW for future reference. Some day you'll want it badly, when trouble comes and you need quick, sure-fire fishing services, with the world's best equipment—

At left are shown two of the SOTCO Tools in use by the Famos Oil Well Fishing Co. Ltd. No. 1 is the SOTCO Socket (Combination Right Hand Trip and Pack Off). No. 2 is the SOTCO Adjustable Grab.

SOTCO
FISHING TOOLS

FAMOS OIL WELL FISHING CO., Ltd.

P. O. Box 594 **OKLAHOMA CITY, OKLAHOMA** **Phones:** 5-8483 2-7301 5-6921

PUMPS
FASTER
▼
SERVES
LONGER

The
LARKIN
Improved
SAND
PUMP

Here is the famous Sand Pump that cleans out wells quickly and completely. It's 20 feet long and has a flush outside diameter for its entire length. Barrel is made of National cold drawn seamless steel tubing. Regular and Bit Bottoms are made of an excellent grade of steel. Save time and trouble. Get the Larkin. It's good for years.

SOLD BY LEADING
SUPPLY STORES

Send for circular and price list

Made only by

LARKIN & CO.

AT BUTLER, PA.

Makers of the LARKIN *Line of Supplies*

REGULAR
BOTTOMS

In the Larkin Regular Bottom, the legs are short, allowing the pump to rest as near the bottom of the hole as possible and still obtain the necessary suction to remove the greatest amount of sand and sediment quickly.

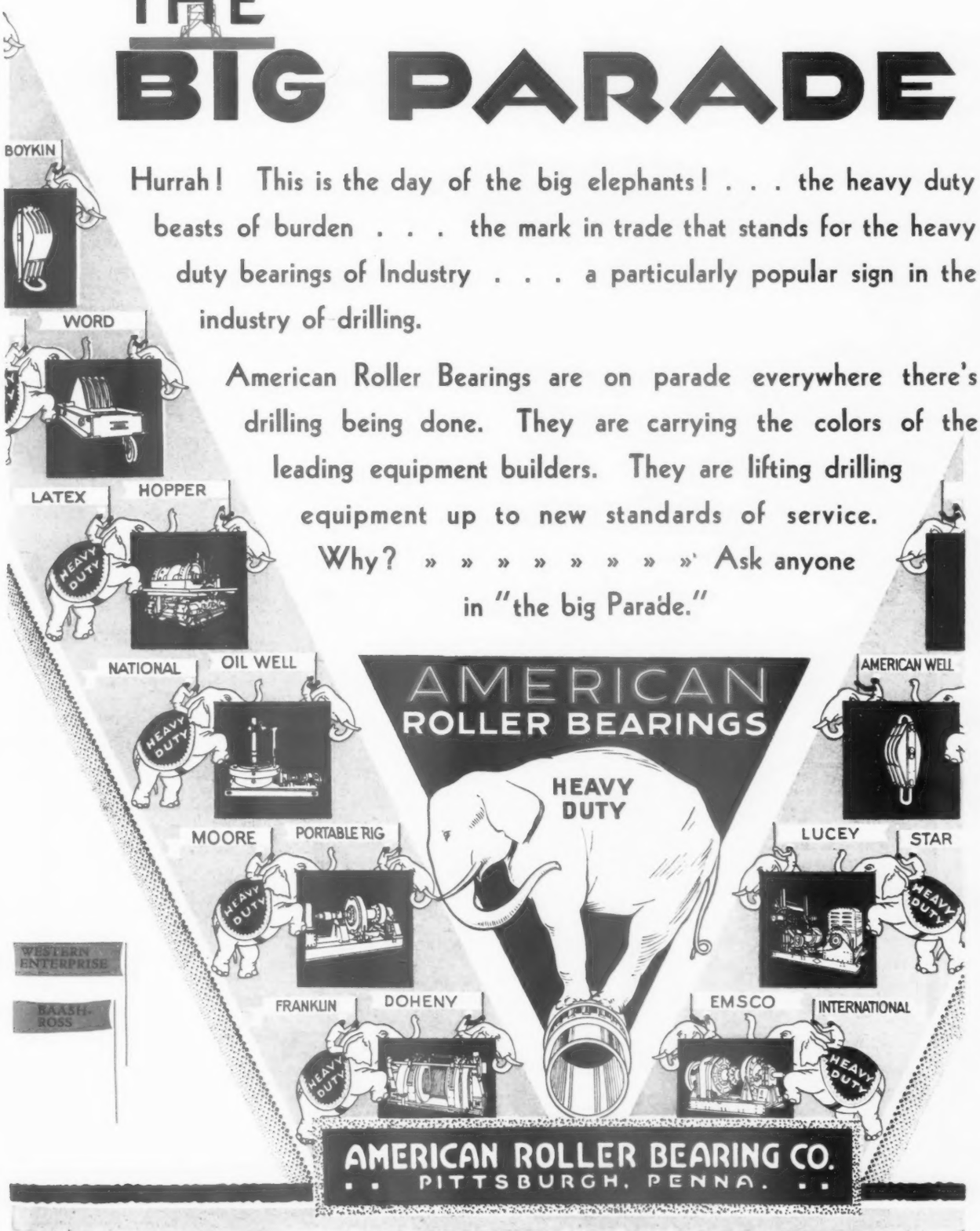
BIT BOTTOMS

This bottom is used for drilling and breaking the sand loose. Its chisel shaped design is unique, prevents sticking, and allows successful operation in tightly packed sands.

THE BIG PARADE

Hurrah! This is the day of the big elephants! . . . the heavy duty beasts of burden . . . the mark in trade that stands for the heavy duty bearings of Industry . . . a particularly popular sign in the industry of drilling.

American Roller Bearings are on parade everywhere there's drilling being done. They are carrying the colors of the leading equipment builders. They are lifting drilling equipment up to new standards of service. Why? » » » » » » » » Ask anyone in "the big Parade."



AMERICAN ROLLER BEARING CO.
PITTSBURGH, PENNA.

Baroid

. . is your best insurance against losses like this

EVERY oil well fire, every blowout, large or small, happens unexpectedly . . . in almost the space of a split second. Weeks of effort are often necessary to conquer them . . . slowed production or wastage often adds to the loss.

BAROID is your best insurance against fires and blowouts. Its high specific gravity controls gas and water pressures, counteracts the abrasive action of gas driven sand, lubricates the casing, drill pipe, and bit. Baroid is the ideal mud laden fluid and insures safer, speedier, and more economical drilling. TAKE NO CHANCES . . PLAY SAFE . . USE BAROID.

Peden Co. is distributing agent for Texas, Louisiana, New Mexico, and Mississippi. Shipments F.O.B. Factory $35.00 per ton. Order from agent nearest you from names given below.

OIL WELL SUPPLIES

Ample stocks of BAROID are maintained at the following points. Write, 'phone or wire point nearest you.

Peden Co.,
Houston, Texas
Peden Co.,
San Antonio, Texas
Peden Co.,
Beaumont, Texas
Peden Co.,
Pettus, Texas
Peden Co.,
Shreveport, Louisiana
Peden Co.,
Zwolle, Louisiana
South Texas Lumber Co.,
Hempstead, Texas
Pickering Lumber Co.,
Hobbs, New Mexico
Stahlman Lumber Co.,
Hobbs, New Mexico
Pickering Lumber Co.,
Wink, Texas
Stahlman Lumber Co.,
Wink, Texas
Pickering Lumber Co.,
McCamey, Texas

LARGE STOCKS
SHORT HAUL
QUICK SERVICE

Complete Stocks of the following on hand:

National A. P. I. Seamless Pipe
* * *
Interior Upset Drill Pipe
* * *
A. P. I. Seamless Casing
* * *
Lap Weld Casing and Line Pipe
* * *
Hughes Tool Joints
* * *
Walworth Valves and Fittings
* * *
Simplex Bits and Parts
* * *
Lunkenheimer Valves

. . . continuation of points at which stocks of BAROID are maintained:

Spencer Sauer Lumber Co.,
Bellville, Texas
Zarsky Lumber Co.,
Refugio, Texas
Eagle Lumber & Supply Co.,
Jackson, Miss.
Murray Brooks Hardware Co.,
Lake Charles, La.
Murray Brooks Hardware Co.,
Sulphur, La.
Slagle Johnson Lumber Co.,
Monroe, La.
E. L. Wilson Hardware Co.,
Beaumont, Texas
Bovaird Supply Co.,
Borger, Texas
Dayton Lumber Co.,
Dayton, Texas
G. W. Hunt Lumber Co.,
Humble, Texas
Doucette Lumber Co.,
Hull, Texas

Established 1890

PEDEN Co.

formerly PEDEN IRON & STEEL CO.

Incorporated 1902

HOUSTON — SAN ANTONIO — BEAUMONT — SHREVEPORT

The Granger Tubing Bleeder

Positive Automatic Action

Simple Design — Exact Control

SEE IT Demonstrated

in

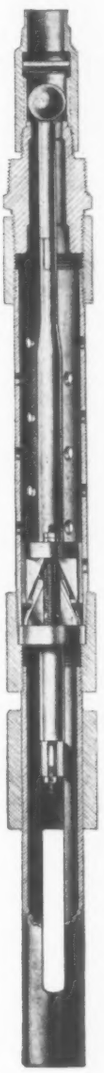
BOOTH 64 TEXAS BLDG.

with a

Full sized model operating in Glass under same conditions of pressure found in the well.

An Interesting Model and a Convincing Demonstration

WRITE FOR DESCRIPTIVE CIRCULAR



SEE AND HEAR

the

100% TALKING PICTURE

of the

GRANGER TUBING LEAK INDICATOR

in the same booth.

GRANGER INDICATOR CO.

137 North Greenleaf Street

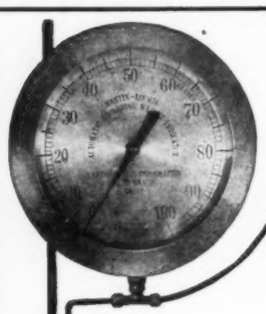
WHITTIER, CALIFORNIA

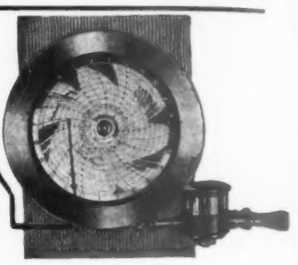
Mid-Continent Branch:

316 So. Frankfort St., TULSA, OKLA.

R. L. MELTON, *Mgr.*

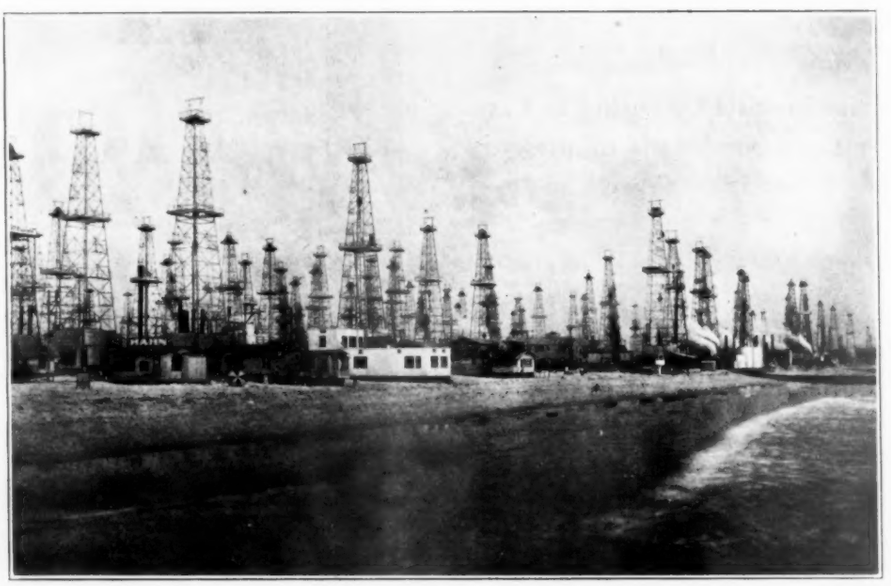
MARTIN - DECKER AUTOMATIC RECORDING WEIGHT INDICATOR





VENICE 91.1%*

of the Drilling Wells using load measuring devices are equipped with the Martin-Decker Weight Indicator



History repeats itself—Wherever rotary drilling is being done, the vast majority of operators use and rely upon the Martin-Decker Automatic Recording Weight Indicator.

*The result of a careful survey made September 13, 1930, checked against the Olson's Scouting Report.

MARTIN-DECKER CORPORATION

Formerly

Martin-Loomis Corporation
3433 Cherry Ave.,
LONG BEACH
CALIFORNIA

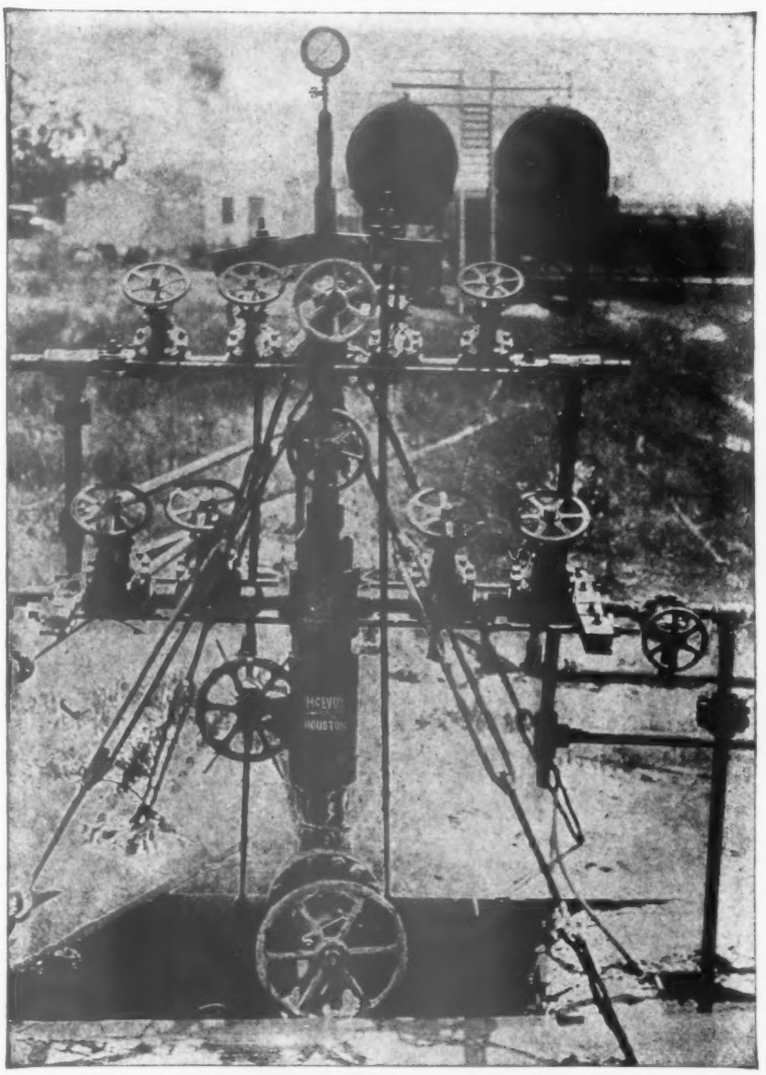
Mid-Continent Distributors
Reed Roller Bit Company
Houston, Texas

Foreign Distributors
Oil Well Supply Company
Pittsburgh, Pa.

WEIGHT RECORDING MEASUREMENT AND CONTROL

OIL MEN ACCLAIM McEVOY UNIVERSAL TUBING RETRACTOR

At the right is a phtograph of a McEvoy Universal Retractor hook-up in a high pressure field.



Seldom has a new tool been introduced to the oil fraternity that has won such instant acclaim from oil men as the McEvoy Universal Tubing Retractor. It is just what they have been looking for.

No longer is it necessary to kill a well in order to renew a valve or a cut-out connection. In case of a fire nearby a flowing well can be quickly shut-in.

A few easy turns of the retractor hand wheel at any sign of trouble, and the master gate valve is free to be closed.

Here are a few features of the McEVOY UNIVERSAL RETRACTOR:

1. Separates tubing sufficient to allow closure of the master gate valve.
2. This relieves all pressure from manifold while repairs are being made.
3. Does not require tie rods to be loosened or manifold wings disturbed.
4. Designed for operation under 2500 pounds pressure.
5. Can be operated in 30 seconds or less.

WRITE TODAY

for folder and price list of this McEvoy creation that is doing such good work in protecting wells and making more money for oil men in high pressure fields.

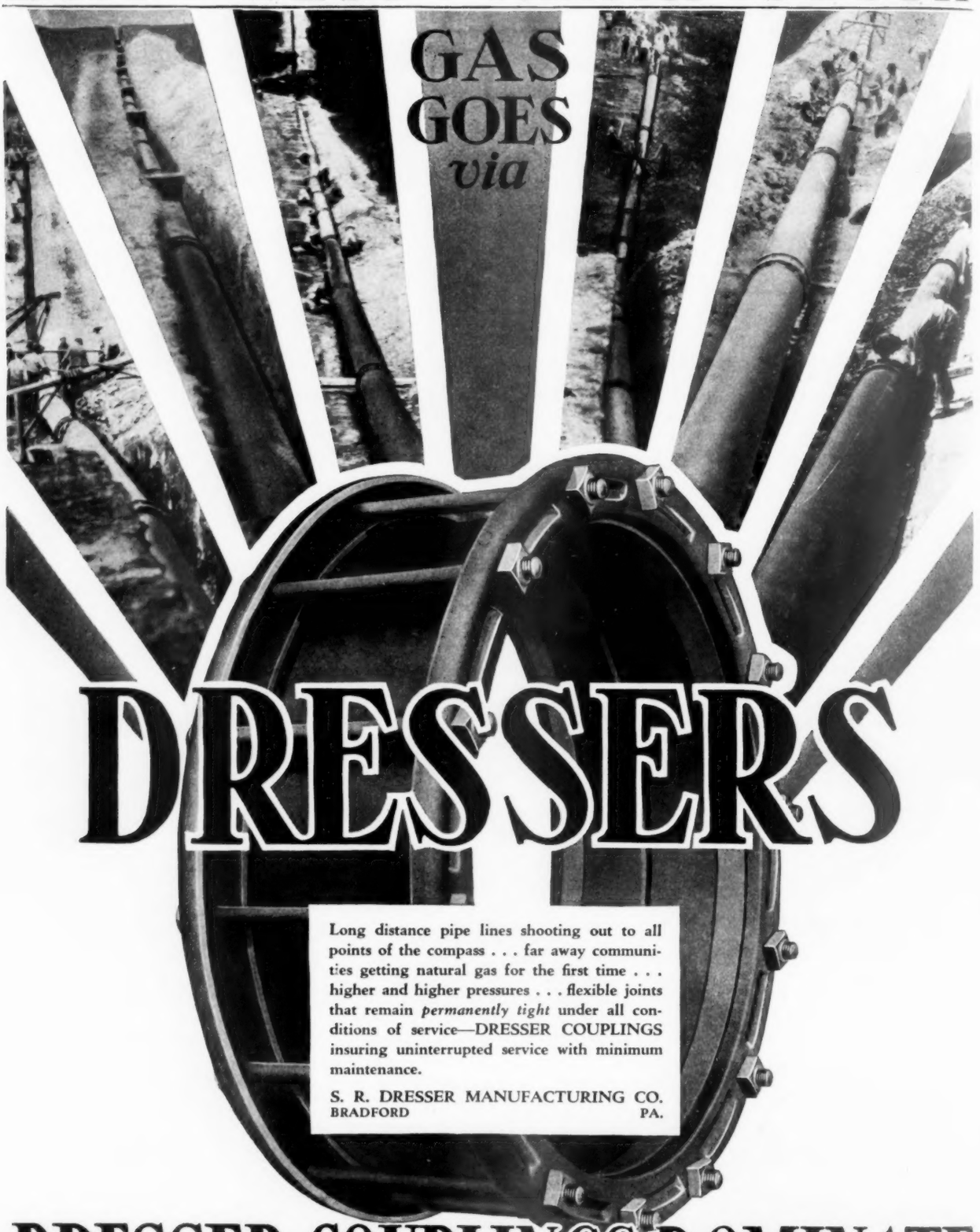
J. H. McEVOY & COMPANY

HOUSTON, TEXAS

PACIFIC COAST BRANCH: McEVOY SCREEN PIPE CO., 2428 E. 56 ST., LOS ANGELES, CALIF.

EAST — WEST — NORTH — SOUTH

GAS GOES *via*



DRESSERS

Long distance pipe lines shooting out to all points of the compass . . . far away communities getting natural gas for the first time . . . higher and higher pressures . . . flexible joints that remain *permanently tight* under all conditions of service—DRESSER COUPLINGS insuring uninterrupted service with minimum maintenance.

S. R. DRESSER MANUFACTURING CO.
BRADFORD PA.

DRESSER COUPLINGS DOMINATE

Demonstrated Performance

An old time Ohio contractor bought a new DONOVAN the other day and we asked him how he liked his other DONOVAN which he bought some five years ago. His reply was eloquent and expressive:

"H—, I've been running her all the time for the last four years and never paid a nickel for repairs nor lost a minute's time. She's a wonderful steamer, easy on fuel, and the best kettle to work I ever saw. Why d— it, man, that's why I am buying another and it is why I buy only DONOVAN boilers. I have never seen their equal and I have used a few boilers in my time."

Men who know good boilers — practical men who know what will be needed, select DONOVAN boilers. Most of them are postgraduates in the school of experience.

DONOVANS are what oil country boilers should be.

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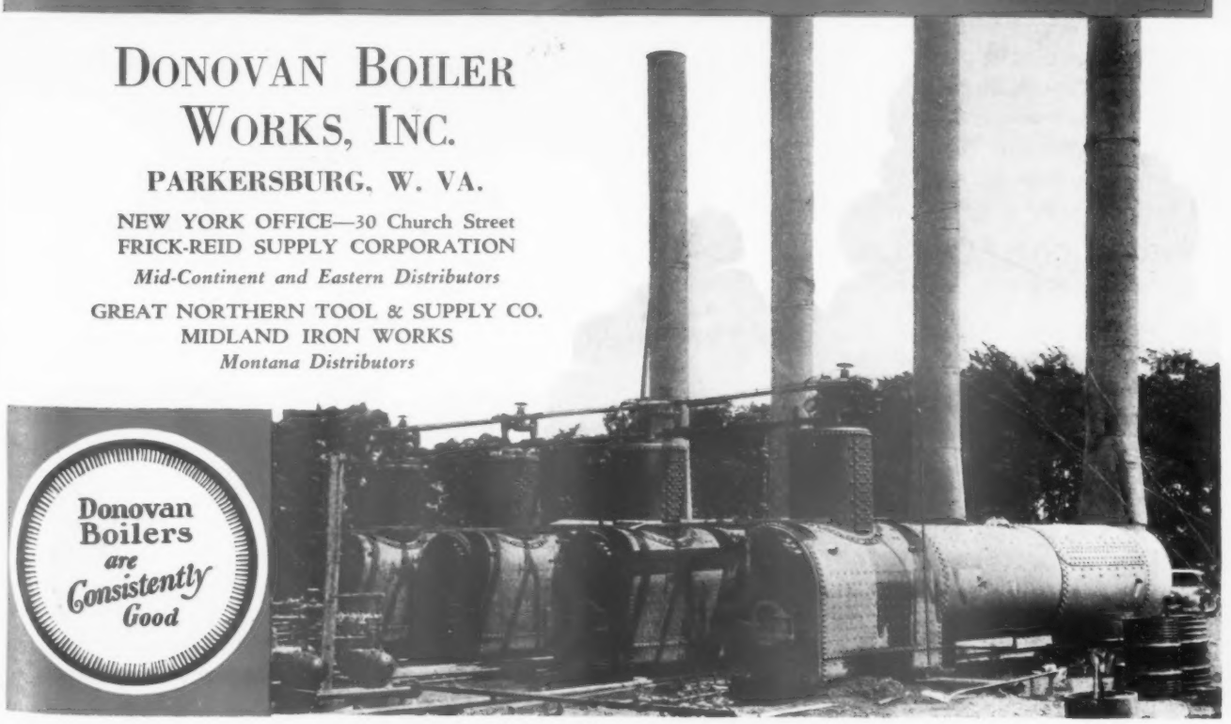

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The OIL WEEKLY

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VOLUME 59, NO. 3

OCTOBER 3, 1930

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SPENCER W. ROBINSON, EDITOR

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THE OIL WEEKLY

VOLUME 59, NO 3 OCTOBER 3, 1930

Oklahoma Independents Direct Guns At Shell

By GRADY TRIPLETT

TULSA.—Along with the organization of the Oklahoma branch of the Independent Petroleum Association of America, oil producers here Monday, September 29, leveled their guns in the direction of Royal Dutch Shell interests, as an organization whose activities are hostile to the petroleum industry of the United States. The meeting had the double purpose of perfecting the Oklahoma organization as well as laying plans for an effort to have a tariff imposed on crude oil and its products at the coming short session of congress.

The Shell organization came in for only verbal barrages as no official action was taken. But speakers did indicate that they felt that it would be possible to get the major oil companies of American ownership into line as regards the importation of oil from South America. But the Royal Dutch Shell was classed as an interest which could never be expected to shape its policies so the interests of the independent oil producer would have consideration.

In the absence of Wirt Franklin, president of the Independent Petroleum Association of America, H. B. Fell of Ardmore, vice president of that organization, presided until the state organization could be perfected. This brought James G. Cloud to the chair on being elected president of the Independent Petroleum Association of Oklahoma, a division of the parent organization.

Messages from Elmer Thomas and W. B. Pine, senators from Oklahoma; and from Arthur Capper and Henry J. Allen, senators from Kansas, were read. These solons promised their assistance when the tariff matter is brought before congress.

After quoting figures to show how crude oil production and refinery throughput have been materially reduced this year and that gasoline consumption has increased in the United States, Pat Malloy of Tulsa set up figures on imports which showed that the total barrels of imports are under last year but that the gasoline figure has increased by 122 per cent for 1930 against 1929. Then he asked what the result had been with a reduction in the price of crude oil imminent.

Other Industries Affected

"This question," he continued, "extends further than the petroleum industry. The copper industry faces a similar situation. The truth is that American capital has been exported to exploit the resources of other countries. The products of that capital are now being returned to the United States to weaken the price structure of goods mined and manufactured in this country.

"What we are concerned about is the position of men of means, who are not aligned with some large concern. For that reason, my suggestion is that you carry your campaign into the quarters of these interests. There is the American Petroleum Institute, also the interests designated as 26 Broadway. With the exception of perhaps five men, those large American concerns are made up of individuals whose interests are no greater in their companies than is the man who has a few hundred barrels of production of his own.

"In these companies you find an aggregation of stockholders and officials. Certainly we should have no trouble in dealing with them.

"But the head of Royal Dutch Shell is credited with saying that there was no room in petroleum industry for the individual of ordinary means. We can not cope with that attitude toward business. That concern is conducted on a basis that is foreign in purpose and foreign in methods.

"So I'd campaign with those who can understand us; and I'd campaign before congress. And under all conditions, I'd campaign."

Charles E. Bowles, statistican for Independent Petroleum Association of America, quoted figures which showed the trend of imports of crude oil and gasoline in relation to the curtailment of crude oil production and refinery operation in the United States. Later he gave further figures and in these showed how Shell interests were set up in the petroleum industry.

Roy F. Flynn of Morgan and Flynn, offered the suggestion that the organization seek to have service stations brought into the effort to have the American buyers support the American petroleum industry.

Charles E. O'Connor, congressman from the first Oklahoma district, said he wanted the organization to under-

(*Continued on page 185*)

W. G. SKELLY

WITHOUT the direction of the man power behind it, the great good of the International Petroleum Exposition and Congress could not be made available to the industry. Success of the undertaking is made possible through the efforts of the officers and directors of the association fostering the event. At its head is W. G. Skelly, president, who finds time for this contribution to the general welfare despite his duties as president of Skelly Oil Company and other interests which make him a leading citizen and public benefactor of Tulsa and Oklahoma.

Exposition Opening Brings Many Interests to Tulsa

AFTER two days of preliminary events, the International Petroleum Exposition and Congress will get under way with the formal opening the afternoon of October 4 and continue through October 11. The preliminary meetings were those of the three divisions of the American Petroleum Institute, as well as its board of directors, and sessions of the American Institute of Mining and Metallurgical Engineers.

The division of production of the A. P. I. held its meeting the morning of October 2, with William N. Davis, vice-president, Phillips Petroleum Company and chairman of the division, presiding. In the afternoon the division of refining held a session, over which W. M. Irish, president of Atlantic Refining Company presided.

October 2 also marked the first program of the A. I. M. E. which met in the Mayo Hotel. Another program was offered October 3. The division of marketing of the A. P. I. met during the morning of October 3, with Henry M. Dawes, president, Pure Oil Company, and chairman of the division, presiding.

At noon October 3, directors of the American Petroleum Institute met for luncheon at the Mayo Hotel. E. B. Reeser, president of the Institute, presided. A business meeting of the board followed the luncheon.

Opening ceremonies of the exposition will begin at 1 o'clock the afternoon of October 4. The grounds, however, will be open at 10 o'clock that morning. Addresses of welcome will be heard from W. J. Holloway, governor of Oklahoma, and George L. Watkins, mayor of Tulsa. There will be addresses by E. B. Reeser, president, American Petroleum Institute; Henry L. Doherty, president of Cities Service Oil Company, and Charles E. O'Connor, congressman from the First Oklahoma district.

Robert P. Lamont, Secretary of Commerce, will give the official opening address.

A service under the auspices of the Salvation Army and a sacred concert will be the outstanding attractions of the program for October 5, the only Sunday of the exposition period.

The first meeting of the petroleum division of the American Society of Mechanical Engineers will begin the morning of October 8 in the auditorium at the exposition grounds. These meetings will continue through three days, sessions being held both morning and afternoon. An extensive program covering mechanical problems within the producing, pipe line and refining divisions of the petroleum industry will be offered.

This society has taken the first move toward making the exposition a meeting place for technical bodies. In the past all such meetings during the exposition period have been held in downtown hotels. The A. S. M. E., however, elected to carry its program through within the grounds.

The A. S. M. E. is responsible for the automatic pipe line pump station, which has been erected on the exposition grounds.

Qualifying rounds of the exposition golf tournament will be started at 8 o'clock the morning of October 8 on the course of the Tulsa Country Club. First round matches will start October 7 and continue daily until the final rounds are played to determine the winner of the trophy, which is offered each year by the exposition.

Annual Safety Meet

The annual meeting of the Kansas-Oklahoma division of Mid-Continent Oil & Gas Association will be held the afternoon of October 8. This will be followed by the annual banquet at 6:30 p. m. in the Crystal ball room of the Mayo

Exposition Committee Chairmen

Scientific and technical committee, W. A. Schlueter, president of Refinery Supply Company, chairman.

Old timer's committee, Barney E. Horrigan, independent oil producer, chairman.

Reception committee, R. C. Sharp, president of Independent Oil & Gas Company, chairman.

Formal opening committee, Ralph Talbot, Tulsa theater owner, chairman.

Special trains committe, A. F. Winn, traffic manager of Skelly Oil Company, chairman.

Housing and validating committee, Harry B. Gale, assistant vice-president Exchange National Bank, chairman.

Golf committee, Frank S. Gray, superintendent of the land department, Prairie Oil & Gas Company, chairman.

Safety committee, Don J. Wallace, director of the safety section, Mid-Continent Oil & Gas Association, chairman.

Equipment Descriptions in Next Week's Issue

Descriptive matter on equipment shown at the International Petroleum Exposition at Tulsa will be found, fully illustrated in the October 10th issue of THE OIL WEEKLY.

If you attend the exposition this issue can be used to refresh your memory on equipment in which you were interested, and if you do not attend, you will be able to get the equipment part of the exposition by proxy.

Remember the date—October 10.

hotel. This banquet is one of the outstanding events of exposition week. The program will bring before the petroleum industry some of the leading financial authorities of the nation.

The number of entries has grown to such a figure for the annual Mid-Continent Oil & Gas Association safety meet that both the morning and afternoon will be required for the contest. The teams for the competition this year will come from Ohio, Illinois and Pennsylvania, as well as from the Mid-Continent. In the past the Mid-Continent has furnished practically all the competition in this contest.

Regulations have been changed this year. Any team which has previously won in a previous contest at the exposition, must come this year with at least three new members.

The competition this year will be held in the auditorium. It will start at 9:30 in the morning and continue until noon. Competition will be resumed at 1 o'clock in the afternoon and continue until judging has been completed.

These events will be followed by the annual safety banquet at the Mayo hotel. The results of the competition in the two sessions at the exposition grounds will be made public at the banquet. The banquet will bring before the petroleum industry some of the outstanding men of safety work.

Through the activities of the scientific and technical committee, the exposition is this year sponsoring an open forum, which will be held October 10 and 11. It is the object to have these meetings follow whatever line the problems of the audience may dictate. There will be questions and answers; problems and discussions.

G. G. Oberfell, president, Philfuels Company, will be chairman of the open forum and W. A. Melton, superintendent of the natural gasoline department of Deep Rock Oil Corporation is vice-chairman.

Many Questions Received

Publicity previous to the exposition resulted in a number of questions being presented for discussion at the open forum. The subjects to be discussed will be classified. Those received previous to the opening of the forum will be put in proper order and brought before the assembly.

But the foremost object of the open forum is to have men attend and present problems and questions from the floor. Such questions will be left for answer from the floor of the forum.

This program will be held in the exposition auditorium. It will begin the morning of October 10 and will continue in the afternoon. The program for October 11, the last day of the exposition, will be determined by whatever may be left unsettled from the previous day.

The open forum is being introduced this year. If interest warrants it will be expanded for future expositions and may come to play an important role in study in connection with the exposition.

While the International Petroleum Exposition and Congress is not built on entertainment, events of this nature have been incorporated in the program this year, as has been true in the past. There will be music each day. A troop of youngsters, mounted on horses, will be seen in the first few days of the exposition. These boys have been performing for a long period and are experts in the saddle as well as with the rope.

The tentative schedule of events follows:

Transportation Addenda Exposition Program

Transportation for visitors by the Junior Chamber of Commerce committee from the principal hotels to the exposition grounds every day at 30-minute intervals.

This transportation committee offers visitors three types of city tours each day with starting times from the principal hotels of: 9:30 a. m., 10:30 a. m., 1:30 p. m., 2:30 p. m. Tours are, industrial section with "open house" at the principal plants; long residential tour, and short residential tour.

American Institute of Mining and Metallurgical Engineers, petroleum division, presented the following papers October 3:

"Some Principles overning the Choice of Length and Diameter of Tubing in Oil Wells," by J. Versluys.

"Increasing the Ultimate Recovery of Oil," by S. F. Shaw.

"Bottom Hole Pressures and Pressure Gradients in Flowing Wells," by C. V. Sidwell.

"Control of Edge Water by Repressuring," by W. W. Scott.

"Effect of Edge Water on the Recovery of Oil," by H. H. Wright.

"Effect of Proration on Decline of Potential Production and on Ultimate Recovery," by H. H. Power.

"Characteristics of Mud-laden Fluids," by C. P. Parsons.

"Densities of Oil-Gas Columns From Well Data," by W. V. Vietti.

"Development of Casing for Deep Wells," by F. W. Bremmer.

"An Economic Comparison of Developments in the South Field Oil-producing Region of Mexico," by Oliver B. Knight.

"Progress Report on Foreign Unitization," by E. L. Estabrook.

"Place of Unit Operation on Adjusting United States Petroleum to World Markets," by Joseph E. Pogue.

Producing Oil Under Difficulties In Mesopotamia

FIRST dispatches from Roy E. Leigh, associate editor, THE OIL WEEKLY, have begun arriving from Mesopotamia.

Early issues of THE OIL WEEKLY will tell something of the extent of the work already done, the prospects for future production; how operators in Irak have been able to continue drilling operations in the face of a very poisonous gas with an ingenious device for ridding the derrick floor of such gases; how operators live and work in temperatures ranging as high as 120 degrees; how operators drilled through salt beds without the salt "leaching" out; how native ingenuity was called upon to solve a salt manufacturing problem necessary to operations in wildcat wells.

In short, subsequent issues of THE OIL WEEKLY will picture not only the economic status of Mesopotamian operations, but living conditions as well.

Mr. Leigh, who is now on a trip around the world for THE OIL WEEKLY, flew from Baku to Tehran, Persia, and from Persia into Mesopotamia. What he has written is written from first hand observation and is therefore doubly interesting.—THE EDITOR.

"Necessity of Unit Operation or Co-operation at Kettleman Hills," by Robert C. Patterson.

"Repressuring and Initial Pressuring," by H. C. George.

"Reviews of Unit Operations in Texas and New Mexico."

First Day

Directors of the day are: D. D. Wertzberger, R. H. Bartlett, J. Burr Gibbons, Fred W. Insull, Warren C. Platt, J. H. Satterwhite, M. F. Waters, T. R. Weymouth, and R. M. Young.

Opening day is: Producers' day; American Petroleum Institute day; Marketing day; Drumright-Shamrock-Oilton day; American Institute of Mining and Metallurgical Engineers' day. W. G. Skelly is president and Ralph Talbot is chairman of the opening ceremonies committee.

Exposition gates open at 10:00 a. m., and the opening ceremonies start at one in the afternoon with addresses of welcome by Governor Wm. J. Holloway of Oklahoma, Mayor George L. Watkins of Tulsa, followed by remarks by E. B. Reeser, president the American Petroleum Institute, H. L. Doherty, president of Cities Service and Empire companies, and Honorable Chas. E. O'Connor. The official opening address will be delivered by Robert P. Lamont, Secretary of Commerce.

In the afternoon mounted boy troops of America numbering 200 expert horsemen and ropers, will entertain, Roxey La Rose will give lessons in gin pole gymnastics for benefit of rig-climbers at the east end of the grounds (likewise throughout the period of the exposition) and Daredevil Gates will do his stuff 120 feet in the air between two derricks. In the evening, and throughout the meeting, La Rose and Gates will perform.

Second Day

Directors of the day are: R. C. Sharp, Clyde Alexander, John M. Egan, Ernest H. Cornelius, H. V. Foster, Walter Gray, D. F. McMahon and Clyde Pape.

This is Enid and Garfield City day; New York day, Chicago day, Drillers and Pumpers day, Roughnecks and Roustabouts day, Tooldressers day, Michigan day, Natural Gasoline day.

The morning will feature a Salvation Army service and a sacred concert. In the afternoon the same entertainment will be available as was presented the afternoon and evening of the first day.

Third Day

Directors of the day include: W. M. Bovaird, George A. Dye, Jacob France, Robert F. Garland, William Holden, Walter Miller, J. Edgar Pew, and Victor H. Smith.

This is American Society of Mechanical Engineers Day; Farm Bosses day; Kansas day; Engineering day; Pipe Liners day, Texas day; San Antonio day; Pithole day, Seminole day; Civitans day; Kiwanis day, and Lions day.

The exposition golf tournament opens at 8:00 a. m. at the Tulsa Country Club with F. S. Gray as chairman. Eighteen-hole qualifying rounds are to determine members of flights for match play, 16 to each flight.

The opening session of the petroleum division, American Society of Mechanical Engineers will be held at the auditorium, exposition grounds, with Wm. G. Heitzel, chairman, presiding, and Dr. H. J. Masson, New York University, as assistant. Charles Piez, president of the society, will present the opening address, after which papers by the following members and subsequent discussions, will be presented:

Papers on pipe line mechanical subjects, by E. H. Hillman, lubrication department, technical divisions, Standard Oil Company of Indiana, followed by a discussion led by J. B. Harshman.

Paper by J. M. McGregor and J. B. Harshman, Sinclair Pipe Line Company, Tulsa, followed by a discussion by A. N. Horne, Empire Pipe Line Company; Fred Thilenius, Prescott Company, and A. E. Flowers, DeLaval Separator Company.

Paper by W. H. Stueve, Oklahoma Gas & Electric Company, Muskogee, Oklahoma, followed by a discussion by A. N. Horne.

The noon luncheon period features meetings of the Civitan Club at the Chamber of Commerce dining room, the Kiwanis Club at the Mayo, and the Lions Club at the Tulsa hotel.

In the afternoon the A. S. M. E. meeting continues with A. J. Kerr, chairman the Mid-Continent section, presiding. Papers on mechanical subjects continue by Oscar Wolf, assistant chief engineer, The Texas Pipe Line Company, Houston, Texas, followed by a discussion led by Wm. G. Heitzel and F. E. Warterfield, Oklahoma Pipe Line Company, Muskogee, Oklahoma.

Paper by Fritz Karge, engineer, Union Oil Company of California, followed by a discussion led by R. S. Danforth, Kinney Manufacturing Company and W. H. Stueve, Oklahoma Gas & Electric Company.

A report by the committee on economic analysis of pipe line pumping station costs, and a report by committee on fixed and operating charges for Diesel-engine pipe line pump stations, were presented.

Fourth Day

Directors of the day are: O. T. Dawson, Clarence Morris, O. C. Staples, F. O. Prior, R. C. Holmes, E. J. Nicklos, P. D. Hays, R. A. Griffith, and Henry Grois. This is Houston day, Midland day, Fort Worth day, Dallas day, Spindle Top day, Louisiana day, Purchasing Agents day, Traffic Club day, and Junior Chamer of Commerce day. The golf tournament officials begins with first matches in all flights.

The A. S. M. E. program continues at the Auditorium

Russia's Five Year Plan—Will it be a Success or a Failure?

ENTERING Russia on the Polish frontier, Rey E. Leigh, Associate Editor, THE OIL WEEKLY, traveled through the country, visiting points of interest to the oil industry, coming out of the Soviet Republic on the Persian border.

His trip had two objects, presentation to THE OIL WEEKLY readers of a picture of Russian operating conditions and a study of how the famous "Five Year Plan" is working out.

What he has written is extremely interesting. The fact that he got his data on the ground, and that the "Five Year Plan," whether it be successful or not, will exercise a big influence on oil operations all over the world, should make these articles of commanding interest to every oil man in every part of the world.

This data will be presented in subsequent issues of THE OIL WEEKLY, with pictures either taken by Mr. Leigh personally or furnished by the Soviet authorities. Watch for these articles.—EDITOR.

with papers on pipe line subjects by J. B. Ford, Chapman Valve Company; J. B. McMahon, and T. D. Williamson, Petroleum Electric Company, Tulsa, Oklahoma, followed by a discussion led by J. L. Culbertson, The Texas-Empire Pipe Line Company, Tulsa; H. L. McDonell, Texas Power and Light Company; William G. Heltzel, Sinclair Pipe Line Company; G. R. Prout, General Electric Company, and A. N. Horne, Empire Pipe Line Company.

Paper by Bert Martin and Wm. G. Heltzel, Sinclair Pipe Line Company, Tulsa, Oklahoma, followed by a discussion led by F. A. Stivers, The Texas-Empire Pipe Line Company; Ludwig Schmidt, United States Department of Commerce, Bureau of Mines, and Oscar Wolf, The Texas Pipe Line Company.

Inspection of automatic pipe line pumping stations completes the morning session.

The luncheon period is to be turned over to the Junior Chamber of Commerce and Traffic Club meetings, to which all visitors are invited guests.

At 1:30 the program of the A. S. M. E. is to continue with papers devoted to oil field production problems by Blain B. Wescott, engineer of tests and L. W. Vollmer, Gulf Research Laboratory, Pittsburgh, followed by a discussion led by John K. Broderick, Broderick & Bascom Rope Company; D. R. Dale, The S. M. Jones Company; H. W. Fletcher, Hughes Tool Company, and Donald E. Dickey, General Petroleum Corporation.

Paper by Weaver Smith, Superheater Company, New York, New York, followed by a report of committee on rotary drilling equipment, and a report of committee on unfired pressure vessels for petroleum industry.

Paper by H. W. Page, Page Oil Field Equipment Company, Oklahoma City, Oklahoma, followed by a discussion led by H. S. Bean, U. S. Bureau of Standards.

Paper by Walter Reid, Dallas, Texas, followed by a discussion led by E. L. Rawlins, United States Department of Commerce, Bureau of Mines, and H. S. Bean.

Fifth Day

Directors of the day are: Wirt Franklin, W. G. Skelly, Harry J. Morlang, Ralph B. Pringle, J. S. Sidwell, H. H. Smith, B. E. Horrigan, and J. P. Flanagan.

This is Oklahoma City day, Rotary International day, Optimists day, Co-operatives day, American Business Club day, Old Timers day.

At 8:00 a. m. the second and third round matches in all flights of the golf tournament get under way. At 9:30 the A. S. M. E. program continues with papers on refining subjects by Lyman C. Huff, chief engineer, Universal Oil Products Company, Chicago, followed by a discussion led by H. R. Swanson, Foster Wheeler Corporation; L. W. Spring, Crane Company; T. McLean Jasper, A. O. Smith Corporation; J. B. Edwards, White Star Refining Company, and L. M. Johnston, Producers & Refiners Corporation.

Paper by John Primrose, Foster Wheeler Corporation, New York, followed by a discussion led by L. C. Huff, Universal Oil Products Company, and E. P. Kiehl, Atlantic Refining Company.

Paper by L. S. Gregory, Whealton & Townsend, Incorporated, Tulsa, followed by a discussion led by G. G. Oberfell, Philfuel Company, Bartlesville, Oklahoma.

Paper by E. V. Rinehart, Johns-Manville Corporation, New York, followed by a discussion led by H. S. Bell, Petroleum Engineer, New York.

Paper by G. M. Jackson, president, Jackson Engineering Company, Tulsa, Oklahoma.

The noon luncheon is to be turned over to special meetings of the Rotary Club for international guests, to be held at the Tulsa Hotel; the Co-operative Club at the Chamber of Commerce dining room; the American Business Club at the Alvin Hotel, and the Optimists Club at the Tulsa Hotel.

In the afternoon the A. S. M. E. meeting continues at the Auditorium with a program devoted to refining subjects as follows:

Paper by Joseph R. Darnell, B. F. Sturtevant Company, Chicago, followed by a discussion led by A. E. Nash, Alcorn Combustion Company, L. A. Mekler, Universal Oil Products Company, and O. F. Campbell, Sinclair Refining Company.

Paper by F. B. Applegate, Worthington Pump & Machinery Company, New York, followed by a discussion led by Walter Samans, Atlantic Refining Company, and A. E. Harnsberger, The Pure Oil Company.

Paper by P. E. Landolt, Eastern manager Western Precipitation Company, New York, followed by a discussion led by A. D. Camp, National Carbon Company.

Paper by R. L. Duff, Standard Oil Development Company, Elizabeth, New Jersey, followed by a discussion led by H. D. Newell, Babcock & Wilcox Tube Company, and J. J. Kanter, Crane Company.

Sixth Day

Directors for the sixth day are: E. B. Reeser, Waite Phillips, E. J. Sadler, H. Brooks Gutelius, W. S. Farish, R. E. Day, W. S. Fitzpatrick, A. W. Peake, and Harry H. Rogers. This is Kentucky day, Geologists day, Mid-Continent Oil and Gas Association day, Bradford-Titusville and Oil City day, Safety day, and Cosmopolitan day.

At 8:00 the golf tournament resumes with second and third round matches in flights. At 9:30 the fifth annual Mid-Continent Oil & Gas Association safety meet will be held, under the direction of Don J. Wallace, safety director, in the auditorium. After luncheon when all visitors will be the guest of the Cosmopolitan Club at the Chamber of Commerce dining room, the safety meet will conclude. In the evening the safety section of Mid-Continent Oil & Gas Association will have dinner at 8:00 p. m.

Seventh Day

Directors for the seventh day are: Frank Hinderliter, A. W. Leonard, Roy B. Jones, P. M. Miskell, E. J. Bullock, W. A. Schlueter, F. B. Parriott, J. H. Brooks and A. F. Bourne. This is Independent Producers day, Scientific and Technical day, Open Forum day, Appalachain day, Royalty day, Scout and Land Men's day, and Chamber of Commerce day.

The open forum starts at 9:30 in the auditorium, under the auspicies of the scientific and technical committee of the exposition, with W. A. Schlueter as chairman and G. G. Oberfell presiding. At noon the visitors are welcomed to the weekly meeting of the Chamber of Commerce, after which the open forum program will be continued at the auditorium.

Eighth day

Directors for the day include: Alf G. Heggem, J. M. Hayner, Frank R. Billingslen, F. D. Bostwick, C. P. Demit, Joseph McGraw, and Ray L. Dudley. This is Oil Creek day, Indiana day, Illinois day, Arkansas day, New Mexico day, Wyoming day, and Montana day. If any questions remain for discussion, the open forum will conclude at the auditorium.

Advanced Methods and Equipment

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By W. A. SAWDON
Petroleum Engineer
Los Angeles

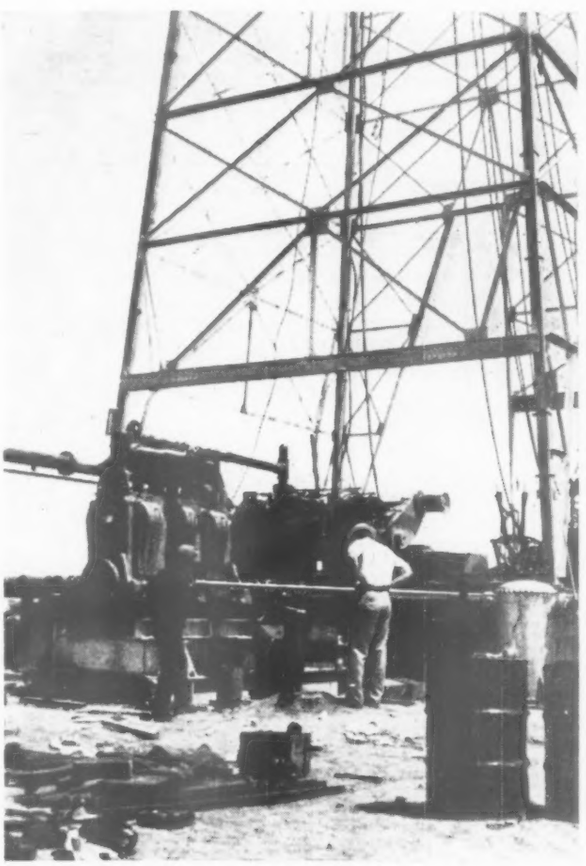
NO matter what conditions govern the completion of an oil well, the greatest drilling speed possible is an economic factor that must be considered. Even on wildcat locations where formation data are of prime importance, when a great deal of coring may be desired and where the competitive race to production is absent, the actual making of hole should be done as fast as possible to keep down the costs. In proven fields, the necessity for fast drilling is, of course, universally recognized whether the field is being drilled under a unit operation plan, whether its production is under proration or whether it is subject to town-lot drilling. When a well is to be drilled it should be completed as soon as possible no matter what the production requirements may be. One hundred feet of good straight hole per day will always cost less per foot than 75 feet of the same kind of hole.

It is naturally assumed that the straightest hole possible is alone to be considered. The great attention paid to the crooked hole problem during the past two years has led to a development of equipment and methods which has insured straight holes. Moreover, the drilling time itself has been decreased in spite of the earlier contention that a sacrifice in speed would have to accompany straight hole drilling.

The wells drilled in any field will always be completed more rapidly after the area has been developed to some extent. The experience gained in penetrating the formations peculiar to the area naturally has some influence in the increased speed acquired; but the application of the best equipment to meet the actual conditions encountered in a certain field has more to do with fast, straight hole drilling than any other factor. In some sections of the country there is a similarity of conditions and experience that permits the immediate application of methods to a new field that were previously used in other fields. In other places, however, new conditions arise and require more time for the development of speed in well completions.

Meeting Peculiar Conditions

The Oklahoma City field has presented an unusual example of the development of drilling equipment to meet the requirements imposed. The formations, when combined with the depth of production, offered problems not met before in the Mid-Continent territory. Conditions were different from those found in the deep wells of California and the Gulf Coast. As the field was developed, however, the experience gained in those territories—especially in California—was used to advantage while other factors that were peculiar to the field itself were met by designing equipment to take care of the needs. Probably the heaviest types of tools and machinery generally used in any oil field are now getting most efficient results in the Oklahoma City field.



Setting the Hydril three cylinder steam engine and draw works on Wirt Franklin well No. 1 Minnie Page in the river bottom in the Oklahoma City field.

The outstanding example of the advance in drilling speed—combined with straightness of hole—is indicated in one of the recently completed wells in the north end of the field. This is Wirt Franklin's Minnie Page 1, SEc of Section 35-12n-3w. The location was in the river bottom which presented an increased difficulty since the quicksand and other surface material necessitated the running and cementing of an extra string of casing. Precautionary measures in setting the surface equipment were also required. Some of the wells located in the bottom land had previously been washed out around the piles and foundations and a few of the rigs had to be skidded.

The well was drilled with Hydril equipment. It was spudded in on June 1, 1930, and by July 31 had been drilled to 6581 feet—ready for running the 6⅝-inch casing, which was cemented at 6250 feet. The elapsed time from spud-

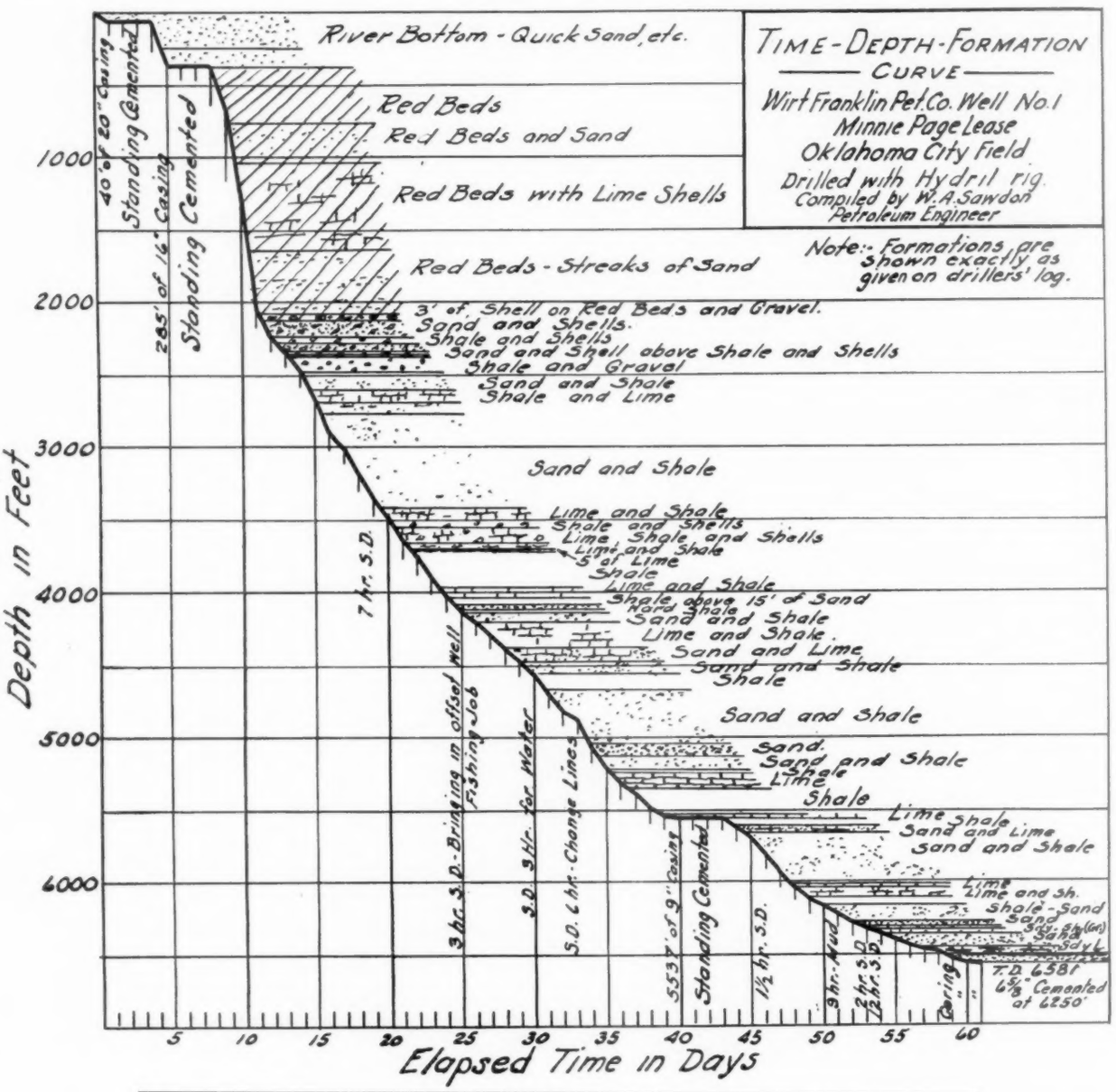
ding in to the depth of 6581 feet is shown graphically in the curve on which are also plotted the formations as reported by the drillers.

An extra surface string of 40 feet of 20-inch casing was cemented to the surface to insure protection against the quicksand encountered at this location. In this, as well as in the other two cementing jobs shown, an accelerator was used with the cement. The general casing program for the field was then followed with a 16-inch string cemented with 300 sacks at 285 feet and a nine-inch string cemented with 1500 sacks at 5537 feet. The first 3000 feet were drilled with disc bits and the remainder with rock bits. Drilling was carefully controlled at all times and the weight on the bit was given the greatest attention. The hydraulic feed rotary table facilitated this drilling control and was used throughout the depth of the well. Its use was evidently a factor in securing a straight hole as well as materially assisting the drilling speed.

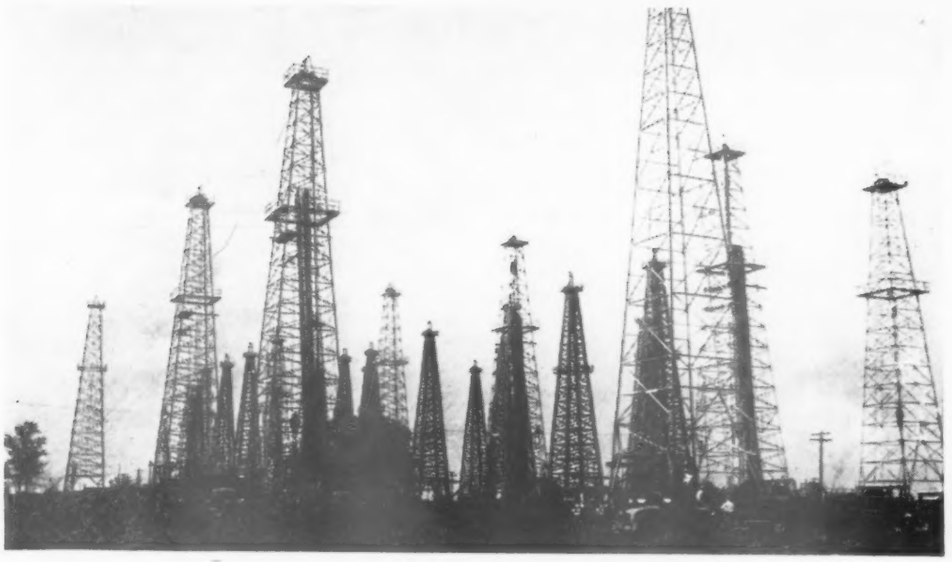
The Time-Depth-Formation curve indicates the factors which influenced the drilling of the well. It is interesting to note to what a relatively small extent the curve flattened out as greater depths were reached. Signs of caving were observed just before reaching 6000 feet but the use of an admixture with the mud prevented any trouble. The last three days shown on the curve were spent in coring and reaming.

The red beds logged by the drillers were the various formations in the Permian system and possibly included the top of the upper group in the Pennsylvanian. The Checkerboard lime was picked up at 5240 feet.

A study of the curve shows the consistency with which hole was made with this rig and also indicates the influence certain formations in the Oklahoma City field have on drilling. In considering the total elapsed time, however, it must be remembered that an extra string of casing had to be run and cemented and, although this string consisted of but a couple of joints of pipe, the well had to stand while the cement set.



The consistent drilling speed together with the influence of formations can readily be seen on this Time-Depth-Formation curve.



A part of the Barbers Hill field

Geophysics *and* Deep Drilling Shape Destiny of Gulf Coast

By JACK LOGAN
Staff Representative

THE American salt dome oil fields, located along the Texas and Louisiana Gulf Coastal plains, offer today a more interesting study, perhaps, than at any previous time in history. For now, more than ever before, they loom up as having vast, almost limitless potentialities.

In the past there have been times when it seemed that the salt dome region had reached the zenith of its importance, and that it must thenceforth sink gradually into an insignificant position as a source of oil. For it appeared that all the domes which existed had already been found, and that the known fields were on the road to depletion. Such was the outlook particularly from 1920 or earlier up to 1924, as reflected at the close of that period in a paper by W. F. Henniger,* in which he wrote: "That it becomes increasingly difficult to find additional domes is apparent when we consider that of the 40 known domes in the Gulf Coast, 37 were found from 1901 to 1913. Of the three, two were found in 1917 and one in 1922."

Today we have an entirely different picture, the one of that time having been enlarged and elaborated upon until it is hardly recognizable as the same. One of those 40 known domes has produced over 60,000,000 barrels of oil since the above paper was written—more than it had previously yielded in over 20 years. Others among those mentioned domes have also shown production increases, while a few in the meantime have emerged from the class of non-productive domes to that comprising productive fields. But the greatest change has been the enlargement of the scene. Instead of the 40 domes there are today 87 known domes and producing fields of "non-dome" type along the Texas and Louisiana Gulf Coast, counting only those areas within the regular salt dome region, that is, from Wharton and Matagorda Counties, Texas, eastward to the Mississippi River. Instead of 28 commercially productive oil, gas or sulphur fields in 1923 there are now 61 fields which fall in that category. And whereas the total production of the regular salt dome region amounted to only 29,784,000 barrels in 1924, it aggregated 51,593,000 barrels in 1929.

Furthermore, in addition to the 87 known domes or producing fields, there are today along the Gulf Coast at least 89 additional more or less promising prospects, a material number of which are fairly certain to develop into producing fields, as indicated by the fact that over a dozen of them have had important showings of oil or gas in spite of very limited drilling. Such have been the changes wrought within a period of about seven years.

For those changes credit goes

See Special Supplement Map in this issue for complete tabular history of Gulf Coast Salt Domes and fields.

* "Occurence of Sulphur Waters in the Gulf Coast of Texas and Louisiana, and their Significance in Locating New Domes," published by The American Association of Petroleum Geologists in its Bulletin, Volume 9, Number 1, page 35.

principally to science in two forms. In the first place, liberal credit and high admiration must be accorded the science of geophysics, which came into practical application along the Gulf Coast in 1924, which, since then, has demonstrated an almost unbelievable effectiveness, finding dome after dome, in rapid and seldom erring succession, many of them on featureless, suspicionless prairies or in lakes or bays whose waters offered no indication whatever that they lay over the salt masses. On the other hand, credit must be given in generous measure to the modern science of deep drilling, which has made 7000-foot wells more or less commonplace along the Gulf Coast, during the past year or two, with the more unusual records including wells ranging from 8000 to 8800 feet deep.

Thus hand in hand, each broadening the field of the other, geophysics and deep drilling have made the late chapters in the history of the Gulf Coast. Geophysics for its part, sometimes as if finding needles in a haystack, has discovered the domes and the prospects, in many instances creating occasion for deep wells. Deep drilling skill in the meanwhile has exerted itself to reach the deep structures revealed by the geophysicists, at the same time meeting the growing demand for further exploration at great depths around the edges of old domes.

Summing up the results that have accrued through geophysical exploration and deeper drilling, and repeating some of the above information in different words, it may be stated that instead of approximately 40 domes and fields as in 1923, the Gulf Coast now has more than twice that number; while new deep production from sands flanking the domes in the meantime has already rejuvenated half a dozen old fields which were formerly believed nearly exhausted, pointing to similar reviving of many of the other old domes and possibly to the establishment of the first production on others which have never been commercial fields from the shallow horizons. Thus the potentialities of the coastal area have not merely been doubled by the 100 per cent increase in the number of domes and fields, but they have been multiplied perhaps several times by accessibility in both old and new fields of deep sands which formerly could not be reached with the drill.

Deep Drilling a Factor

Deep drilling as one of the factors revolutionizing the potentialities of the Gulf Coast as a source of oil was discussed in some detail, with accompanying statistics, by the writer in the October 4, 1929, issue of THE OIL WEEKLY, and although the depth records of that time have been exceeded to some extent by now, the subject will not be touched upon except briefly here. Old fields which in the past have been regarded as virtually exhausted by reason of decline of shallow sand production but which are now important areas because of discovery of prolific deep sands (below 5000 feet) include: Spindle Top, Barbers Hill, Humble, North Dayton and Pierce Junction, along the Texas Gulf Coast, and Evangeline (Jennings), Sulphur dome, and Bayou Bouillon in South Louisiana. Newer fields with production below 5000 feet include: Allen dome, Esperson, Fannett, and Moss Bluff in Texas, and Lockport and Sweet Lake in Louisiana. In addition to the above there are other old and new fields with some production proved below 5000 feet.

Geophysics, the other principal factor which has widened the potentialities of the salt dome oil country, will be discussed now in more detail.

For presentation along with this article detailed tables have been worked up listing all old domes and geophysically discovered fields and prospects, and a special map has been prepared to show those numerous areas. More eloquently than words, those tables and that map

When work was resumed in the old Humble field

reveal the brilliant record achieved by geophysics and the geophysicists.

Checking through the data in the tabular histories, one finds, for instance, that geophysics from the very beginning of its practical application in 1924, virtually displaced all other methods of prospecting for new fields in the Gulf Coast—Raccoon Bend and Clay Creek being the only discoveries since 1924 not credited to geophysical instruments, and both of those are other than regular Gulf Coast salt dome fields.

Thus, having displaced the older methods of exploration, the science of geophysics in less than seven years accomplished the following definite results in the country lying between the most easterly tip of Louisiana and the southern edges of Wharton and Matagorda Counties, Texas, to make no mention whatever of any doubtful or undrilled prospects.

It pointed the way to the drilling of 38 prospects now established either as known salt domes or as commercially productive oil or gas fields of the "non-dome" type. In all the 30 years since Captain Lucas brought in the original Spindle Top gusher, other methods have found 49 areas in that same category, most of them marked by such evident identifications as pronounced surface elevation, gas or oil seeps, paraffin dirt, and so forth.

A Startling Achievement

The above two paragraphs constitute a true, if startling, comparison of the definite achievement of geophysics as

compared with other methods of exploration. Theoretically, at least, every salt dome is a potential oil field, and on that assumption, having found the domes and placed them at the disposal of the producing departments of the oil companies for development, the geophysicists have found in less than seven years almost as many potential oil fields as other methods were able to reveal in 30 years—that remarkable achievement under the handicap that the easier discoveries had already been made when geophysics entered the field, and that the older methods had already virtually reached the extent of their resources.

Since there will be readers who will be interested in further and more detailed comparisons, the above facts will now be broken down into further classifications.

Considering only proved salt domes, that is—those areas where either salt or cap rock have actually been drilled into—there are now 34 to the credit of geophysics, as compared with 42 to the credit of other methods.

In addition to the regular salt domes, there are a few fields, both old and new, along the Gulf Coast where no cap rock or salt has been encountered, but where commercial production of oil or gas has been found. Among those there are four discovered by geophysical methods, as compared with seven by other methods.

Going back to the known domes, those found by geophysical methods include 20 which have yielded gas, oil or sulphur in commercial quantities, whereas those found without the aid of geophysics include 30 which have proved similarly productive.

Summing up, that is, including productive fields of both the dome and the "non-dome" type, there are 24 which were found by geophysical methods, as against 37 by the other methods.

Among the known domes which have not yet proved commercially productive, there are 14 to the credit of geophysics, as against 12 which were found without geophysical instruments.

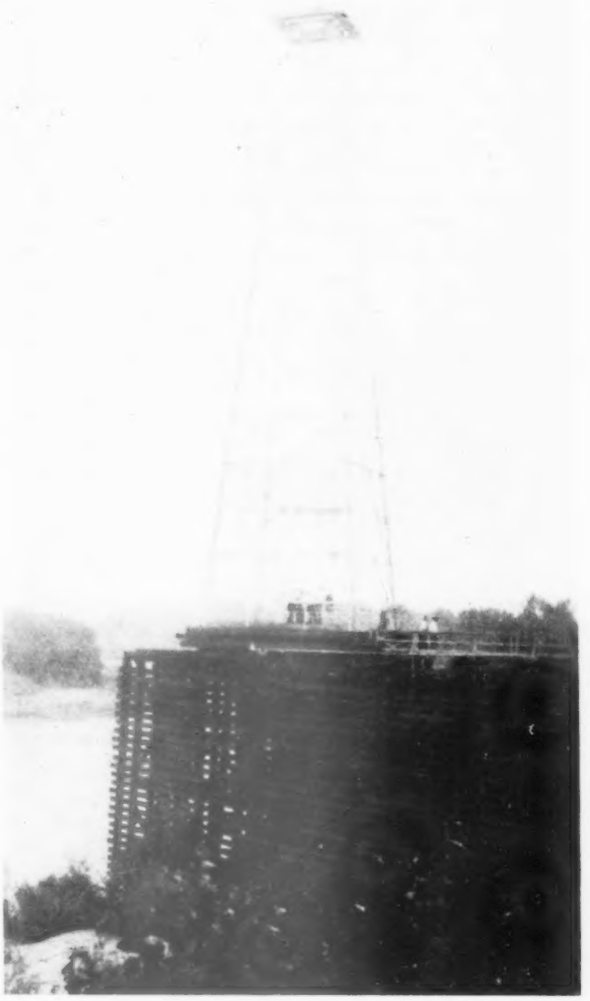
The above statistics are set forth in an accompanying brief listing of all the fields and domes under three classifications: (1) "Non-Dome" type producing fields, (2) proved salt domes: productive, and (3) proved salt domes with no commercial production. In considering that table or the foregoing statistics, it must be borne in mind, for the sake of fairness to geophysics, that while most of the older domes have been drilled rather extensively, there has been very limited drilling on many of the geophysically discovered domes.

Finally, a brief explanation is due in regard to the numerous very recent geophysical prospects which are shown on the special Gulf Coast map and in the tabular histories included in this issue in the form of an insert, as a supplement to this article. It is felt that some discussion on that point is necessary to insure the reader a complete and authentic picture of the salt dome situation, as well as to insure the geophysicists against any unfairness which might accrue to them through misinterpretation of the tabulated information.

The geophysical discoveries listed include 89 areas not yet shown by drilling to be salt domes or productive fields. Among them are many prospects which have never been drilled by a single test. Some of those, perhaps, may never be drilled, because of later geophysical work which has not checked with the original findings. A few of the prospects were included rather on the basis of rumors than on any authoritative information. On the other hand, however,—and here is where the explanation is needed—there is a considerable number of prospects included showing only one or possibly two test wells to the prospect, with apparently discouraging results.

It must be realized in the first place that it is unwise to condemn any geophysical prospect on the strength of a single well, particularly when the prospect is of the "very deep dome" or "non-dome" type, as many of the late prospects are. In substantiation of the truth of this statement, the histories of the Esperson and Hankamer fields may be cited. In each of those areas the first test following torsion balance work revealed neither dome formation nor important oil showings. Incidentally, each was slightly too far south. The second test at Hankamer discovered oil, while it required a third well to establish Esperson as a producing field. In each of those two fields the geophysical interpretation was essentially correct but sufficiently incorrect in detail to result in the first test being a failure. Similar slight error may have occurred on some of the lately drilled prospects which have not proved productive with the first test. In this connection Dr. Donald C. Barton in the September, 1930, issue of the Bulletin of the American Association of Petroleum Geologists has the following to say:

"A geophysical method may give definite indications of the presence of some type of geophysical structure, but



Duncan State 1 of Humble Oil & Refining Company and Valley Oil Corporation, oil producer which extended Raccoon Bend field, Austin County, Texas, eastward into Brazos River.

may not delineate the details of the structure with sufficient clearness to permit the accurate location of the first tests. A gravity minimum in the Gulf Coast region may indicate definitely the presence of a deep salt dome, but it gives a somewhat poor indication of the exact position of the crest of the dome. But in oil geology, an indefinite indication of structure is of value in the absence of more definite indication of the structure.

Two Other Considerations

Farther along in the paper, a "Review of Geophysical Prospecting for Petroleum in 1929," Dr. Barton, discussing "lessons applicable in non-salt dome areas," makes two other points which should be taken into consideration in connection with the recent discoveries herewith tabulated. One of them is that: "The personal equation enters into the success of a method. Working with identical instrumental equipment under identical conditions, one man may make a success of a method and another may make a failure of it. Seeming failure of a method may be a failure of the personnel and not of the method." The other point which he makes is that "Failures on prospects which are marginally favorable should not be charged against a method. A great many prospects are drilled because the company has no better prospect available. A great many prospects have been "farmed out" by their discoverer company because the company felt that the prospect did not justify the expenditure of the company's money for a test."

Aside from those factors pointed out by Dr. Barton, there are various other considerations entering into the significance of one or even two or three unsuccessful test wells on a geophysical prospect. Among them are three particularly important ones mentioned by John F. Weinzierl in the August 29, 1930, issue of THE OIL WEEKLY. Much depends, he says, upon the efficiency of the drilling company, and "often the setting of the wrong type of screen, insufficient cores upon entering sand, overloaded drilling solutions, and so forth, prevent the making of wells." Another factor pointed out is that "Sometimes land lines, inaccurate maps, misplaced well locations, due to inaccuracies on the part of engineers, and natural boundaries such as lakes and rivers, cause the placing of a test well at the disadvantage of the geophysical prospect." The third consideration among those mentioned by Mr. Weinzierl is that "There have been times when a company was willing to develop some peculiar anomaly not falling under the category of known geophysical structures. These must be regarded as experiments and not thrown up to the geophysicist as blunders." In connection with that latter point, it may be of interest to say that Port Neches, now a producing field, originally fell in that category—a prospect of an inferior class, only faintly indicated by the seismograph. For advancement, experiments are necessary.

Finally, in conclusion, a careful study of the accompanying tabular histories will reveal that there is much which is encouraging to offset anything which may appear discouraging in the early drilling of those geophysical prospects which are not yet proved domes or producing areas. For along with the negative tests there have been good oil or gas showings on a dozen or more prospects, such as Roanoke, Cameron Meadows, Genoa, Cadar Bayou, Needville, and Shepherds Mott. Given enough time for thorough testing, some of those and numerous other prospects may prove commercially productive, and no one can prophesy with certainty what the limit of the number of new fields along the Gulf Coast will be.

GEOPHYSICALLY DISCOVERED DOMES AND FIELDS

Texas Gulf Coast

"Non-Dome" Type Producing Fields	—Proved Salt Domes— Commercial oil or gas	No commercial production
1. Mykawa	1. Allen	1. San Felipe
2. Esperson	2. Lost Lake	2. Clemens
3. Hankamer	3. Moores Field	3. Danbury
4. Port Neches	4. Long Point	4. Hawkinsville
	5. Sugar Land	
	6. Fannett	
	7. Moss Bluff	

Louisiana Gulf Coast

	1. Sorrento	1. Napoleonville
	2. Starks	2. S. Calcasieu Lake
	3. Black Bayou	3. Vermilion Bay
	4. East Hackberry	4. Bayou des Glaisse
	5. Loreauville	5. Grosse Tete
	6. Bayou Blue	6. Thibodaux
	7. White Castle	7. Lake Grande Ecaille
	8. Port Barre	8. Garden Island Bay
	9. Dog Lake	9. Bay Junop
	10. Bay St. Elaine	10. Four Isle Bayou
	11. Lake Pelto	
	12. Lake Barre	
	13. Caillou Island	

DOMES AND FIELDS FOUND WITHOUT AID OF GEOPHYSICS

Texas Gulf Coast

"Non-Dome" Type Producing Fields	—Proved Salt Domes— Commercial oil or gas	No commercial production
1. Goose Creek	1. Damon Mound	1. Stratton Ridge
2. Orange	2. West Columbia	2. Hockley
3. Raccoon Bend	3. Hoskins Mound	3. Big Hill, Jefferson
	4. Bryan Mound	4. Davis Hill
	5. Barbers Hill	
	6. Blue Ridge	
	7. Big Creek	
	8. Nash	
	9. High Island	
	10. Saratoga	
	11. Sour Lake	
	12. Batson	
	13. Humble	
	14. Pierce Junction	
	15. Spindle Top	
	16. North Dayton	
	17. Hull	
	18. South Liberty	
	19. Big Hill, Matagorda	
	20. Markham	
	21. Brenham	
	22. Clay Creek	
	23. Boling	

Louisiana Gulf Coast

1. Welsh	1. Evangeline	1. Pine Prairie
2. Lockport	2. Vinton	2. Hager (Sect. 28)
3. Sweet Lake	3. Edgerly	3. Jefferson Island
4. Houma (Gas)	4. Sulphur	4. Avery Island
	5. Hackberry	5. Weeks Island
	6. Anse La Butte	6. New Iberia
	7. Bayou Bouillon	7. Cote Blanche
		8. Belle Isle

Van Field Example of Unit Efficiency

By W. C. MORRIS
Staff Representative

Drilling practices and equipment, production methods and lease management in the unitized Van field of East Central Texas are in themselves an exposition of all that is new and advanced in the science of oil production. The editors are pleased to present on the following pages a complete pictorial view of the industry's most modern field.

DEVELOPMENT and efficient operation of the unit plan in the Van, Texas, field has been regarded as one of the most successful undertakings in the oil industry and has been responsible for the working out of a model field for all adherents of the unitized plan. This plan has kept the field from being a market barrier by overproduction of its enormous potential and has also caused the proration committee a very small amount of trouble in holding to its quota.

The system as carried out at Van is centered around a supervisory committee composed of one member from each company holding interests in the unitized area. The present plan is extended to hold over a period of five years for this one area. Each company has a voice in the method of development and operation of the field through this committee and is given every consideration in the drilling of new wells. There are six companies holding leases in the unitized area of 5800 acres, namely: Pure Oil Company, Sun Oil Company, Shell Petroleum Corporation, The Texas Company, Gulf Production Company and Humble Oil & Refining Company.

All work of the unitized plan is carried out by the executive and field offices of Pure Oil Company, thus eliminating necessity for having six field offices with all necessary office personnel. All expenses of operation are carried on separate accounts for each company. The system has been worked out in such detail that the field is being developed with an idea to conservation of gas and oil at sacrifices of individuals. Profits of the plan are based on producing acreage percentage.

C. E. Lewis, field superintendent of the Pure Oil Company, has charge of all operations in the field. All drilling in the field is done by contractors under contract with Pure Oil Company's field office. Every effort is employed to keep the work on a uniform basis and conduct the drilling on a set schedule. Use of standardized equipment throughout has facilitated drilling operations and has contributed much in time and labor economy in moving equipment onto the location at the exact time it is needed. A system has been worked out whereby all drilling material is purchased by units or groups and is moved to the location on schedule. An example of the efficiency of this plan of work is seen in the fact that casing is brought to the site in two groups so that there is never an unusually large amount of casing to be racked near the well. About two or three days before the well is to be brought in the flow lines and Christmas tree are brought onto the location and separator tanks are set up so that no delay is experienced in completing the well. Equipment is removed from the site as soon as there is no further need of it, heavier equipment being skidded to next location. This scheduling and planning of work has effected great economies for all operations of the unitized area.

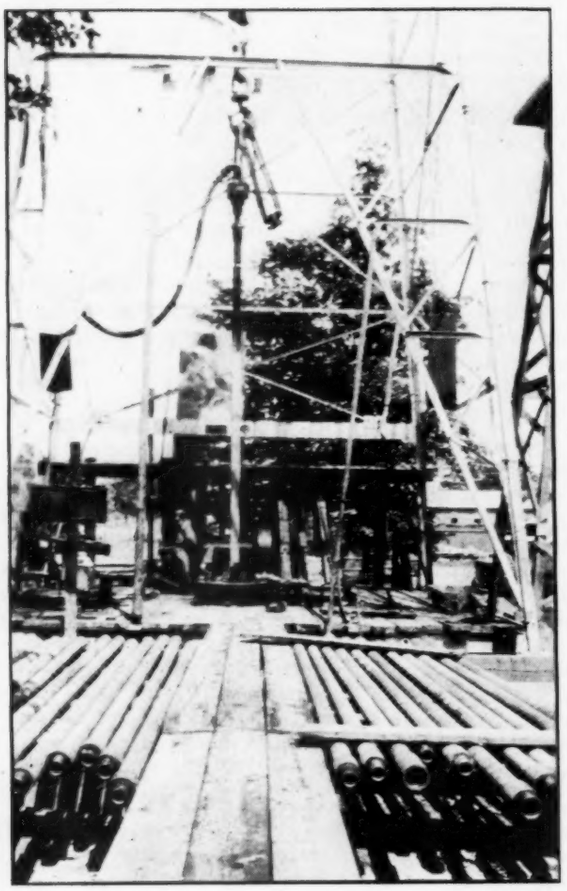
Potential 500,000 Barrels Daily

There are in the field at the present time over 100 flowing wells with a potential production of 190,000 barrels daily under choke and a potential production of 500,000 barrels daily flowing open. Here again the use of standardized equipment is a mark of distinction to the field. Christmas trees made up to exact dimensions and using the same connections and valves are used on each well including the two tubing and pressure gauges which are protected from the elements by tin covers designed to fit snugly over each gauge. Two flow lines connect the Christmas tree to the trap from which the oil is allowed to flow by gravity to the flow tanks. Gas pressure from the separator is measured through orifice meters which are housed by portable metal boxes as shown in an accompanying illustration.

Pumping in the Van field is practically a feature of minor importance because of the fact that there are only five wells on the pump, yet these five wells are unusual enough that they deserve more than casual mention. In many fields little attention is paid to the cleanliness and appearance of pumping locations, especially if the wells are not very good producers. In the case of the Van field pumpers, there have been no expense and work spared to make them model wells in keeping with the general plan of modern production methods employed in the area. Steel derricks, gas engines, steel pump houses and cement floors for the wells are all features which convey the idea of uniformity of construction and equipment and prove valuable assets to the appearance of the wells. Fire hazards and accident prevention measures have not been overlooked in installing guard rails and in keeping the grounds around the location clean.

Gathering the oil from the flow tanks in the field has proved to be very economical due chiefly to the fact that advantage has been taken of local topography in laying out the system of gathering lines with regard to the Pure-Van pipe line station so that most of the oil is moved by gravity. Five gathering stations in the field serve to take the oil from the flow tanks and force it into the tanks at the tank farm near the pump station. All operators in the unitized area are relieved of the problem of marketing by agreement with Pure Oil Company to take all production for its pipe line at posted market prices.

The Van Field in Pictures

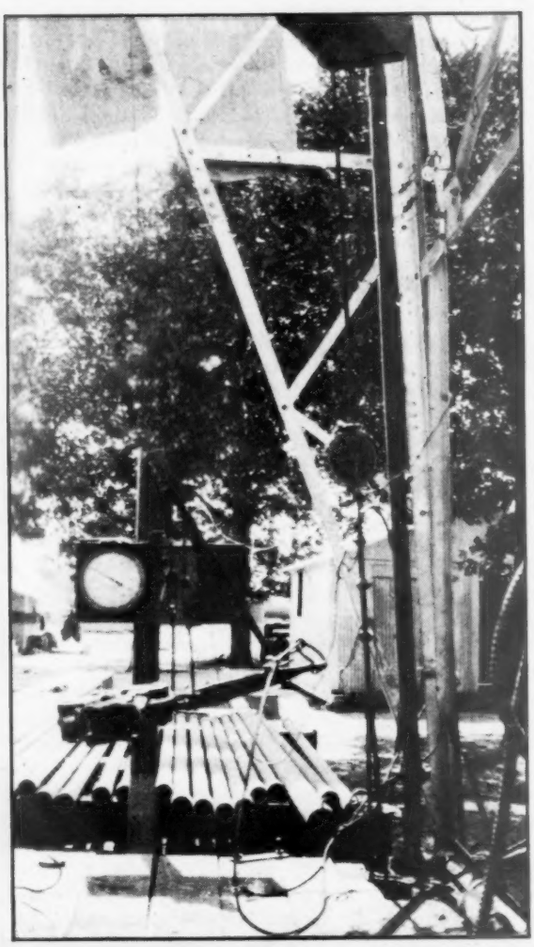


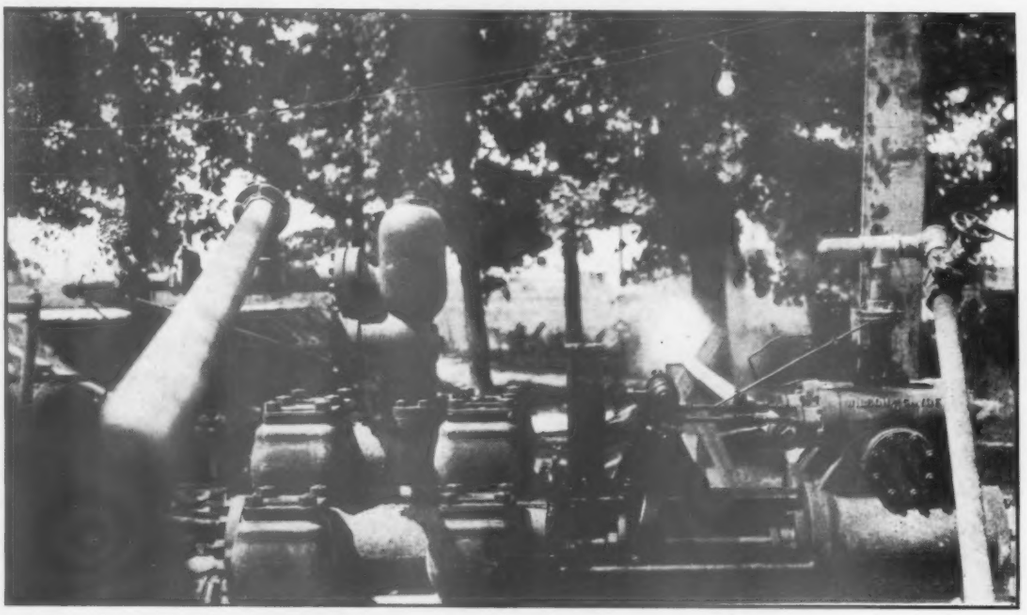
IN this view of a well being drilled near the town of Van in the unitized area, is shown the method of laying out the derrick and the walkways with pipe racks at each side. Sufficient casing of the sizes needed is delivered to the site in each instance in advance of the drilling crews. Upon completion of the well and as soon as flow is diverted through the traps to the field tanks the clearing-out crews are on hand removing the rig for use on some other location.

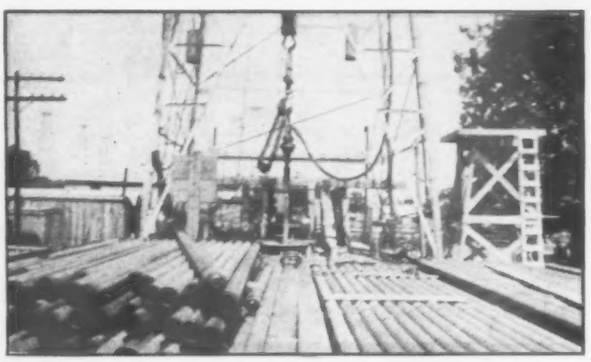
About 300 feet of 10-inch surface casing is set in each well. A string of seven-inch O.D. casing is set on top of the Woodbine sands with a perforated liner instead of a screen. When the Woodbine sand is contacted a core is taken. All of the wells are washed in and flowed through 2½-inch tubing and usually with a half-inch choke, although larger or smaller chokes are employed as the company deems best suited for the individual well. Average drilling costs is reported to be about $22,000 per well.

MODERN drilling equipment of rotary type is employed in exploiting the Van field. Pure Oil Company has charge of the exploration work in the unitized area, but the company itself is not drilling the wells. Drilling contractors complete the wells in about three weeks' time. Every rig is equipped with weight indicating instruments for control of the drilling operation.

Under the unitized program pervailing in this area it is possible to schedule the work several days ahead. In anticipation of completion of the wells the platform for supporting the separator is erected when the drilling reaches a predetermined level; and all connections, fittings, valves and piping necessary for its installation are placed on the site before drilling in the well. The same planning of work and delivery of equipment in anticipation of the needs of the construction gang, is followed out in regard to field flow tanks, Christmas tree fittings for the flowing wells, gauges, meter guards and other equipment.

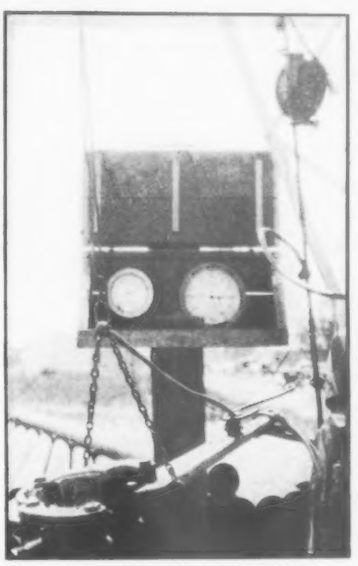




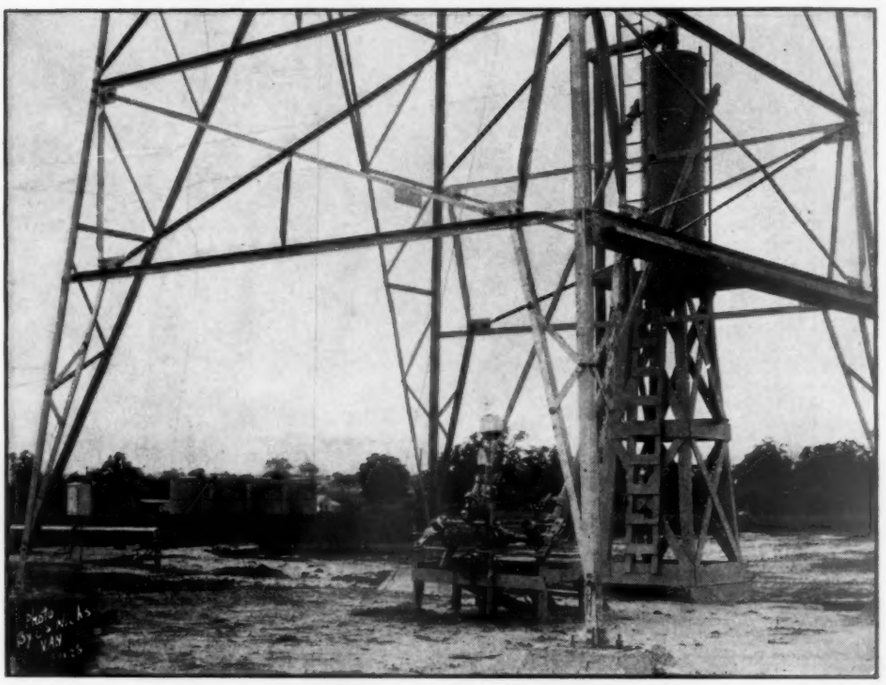


HEAVY duty equipment used in rotary drilling in the Van field extends to the pumps for circulating mud through the drill pipe, bits and casing. The pumps are located on separate platforms which are skidded from one location to another when the operation is completed at one well. Ordinarily these pumps are placed on the derrick floor, but the system of moving equipment off the location immediately after completion of the well has required that each piece of machinery be mobile. Adequate lighting facilities make drilling just as efficient and safe at night as in the day time. The derrick floors and the space surrounding them given over to pipe racks, pumps and boilers are kept as free from obstruction as possible. This orderliness around the well and rig promotes further safety for the workmen. The key-note of appearance around each well in the Van field is "good housekeeping."

CASING racked in anticipation of the driller's needs, adjacent to a new drilling well at Van. Bit and tongs are in readiness for the next operation. The weight indicator gauges in this instance are housed in a heavy wooden box which also serves to keep the small tools necessary for installing and dismantling the indicating device. The gauges are not attached to the derrick floor, but are mounted on a heavy post sunk several feet into the ground and independent of the derrick to eliminate the jars and vibrations which might contribute to inaccuracy of the readings.

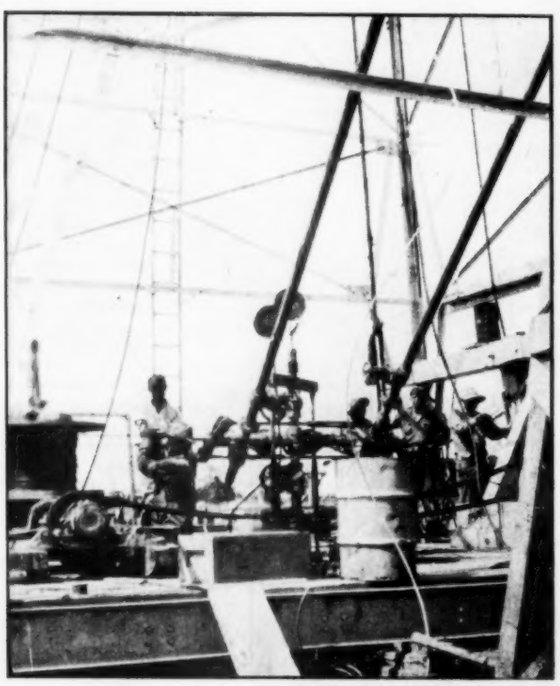


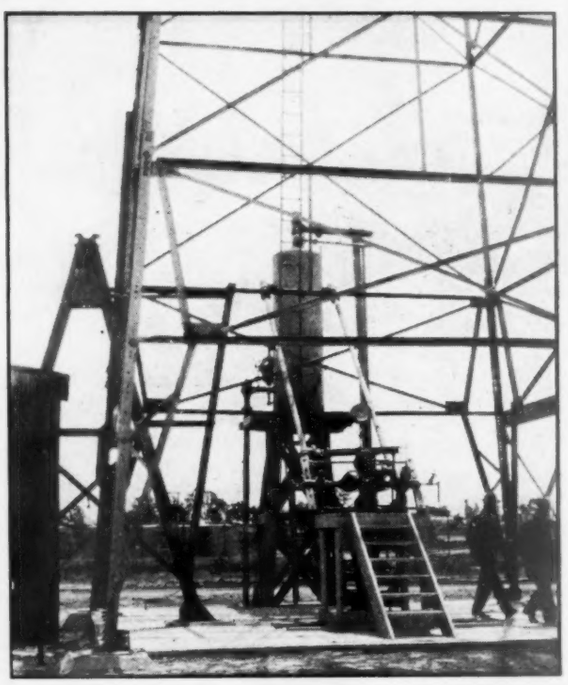
THE weight indicating devices employed in the control of drilling operations are equipped with vernier gauges, more easily seen across the derrick floor than the standard gauge used excusively in earlier years. Two gauges are required, one as a check against the other. In addition a third recording gauge is used which makes a permanent chart record of the drilling of each well. At this particular well the control instrument is housed in a two-compartment metal box as protection against weather.



TYPICAL hook-up of a flowing well in the Van field. All these wells are equipped with separator tank, well gauge, Christmas tree and flow meters. Battery tanks in the background serve this producing well. Paint is not spared in protecting the equipment from weathering. Meters are protected by covers, lessening the danger of breakage and spoiling records needed for the wells.

THIS well was completed on the morning of July 11 without loss of production. Flow was turned into separator and field storage through two lines leading from the well—head fittings to the separator. Pressure gauges are provided for indicating both casing and tubing pressures. In accordance with the system of scheduling delivery of needed equipment at the job, tools and materials required for hooking-up the well to flow tanks were at the well before they were needed. As soon as connections were made the clean-up crew was on the job tearing out the drilling rig, drilling accessories, boilers, steam, water and gas lines, to move the rig to another location.



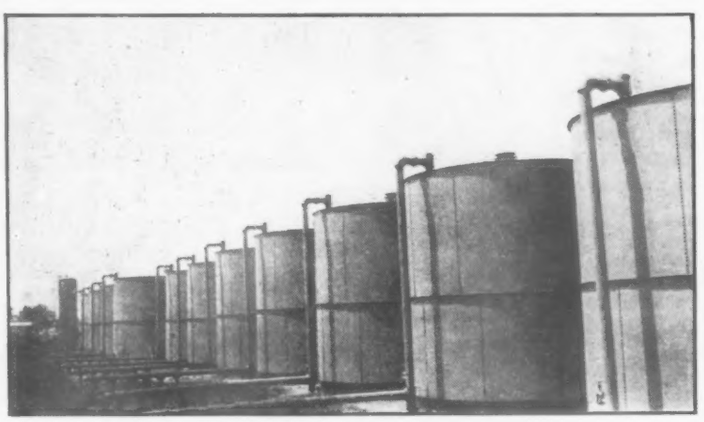


DISCOVERY well of the Van field showing the original type of hook-up employed in the early history of the field. This hook-up has since been simplified and has had many improvements made in it. The discovery well, Jarman 1, was drilled by Pure Oil Company in 45 days, or about twice as much time as is now necessary. This well topped the Woodbine sand from 2556 to 2662 feet, from which formation all wells in the field are producing. The discovery well was first completed at 2710 feet, producing 35 A.P.I. gravity, sweet oil. Jarman 1, was completed October 14, 1929. Rapid development of the field is seen in the fact that on August 22, 1930, there were 91 completions in the unitized area, consisting of 5800 acres, with 15 wells being drilled and 15 more locations being made ready for active operations, (The Oil Weekly, August 22, page 69, H. H. King.)

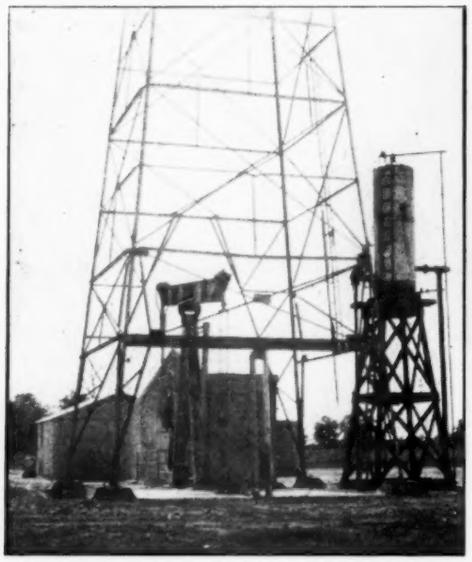
GENERAL view of the Van field, looking north from Thompson 1 near the discovery well. As a result of the unitization plan all wells are carefully plotted on maps before being actually located, thus eliminating the problem of overcrowding which is inevitable in such prolific fields where independent operators hold leases. Evidence of the thoroughness of planning is seen in the fact that only three failures have been drilled in the field. Three other companies, operating independent of the unitization plan, have started wells outside the unitized area. One of these wells proving to be a producer, was completed July 2, 1930.

BATTERY of storage tanks in the field relieving flow from separators. Oil from these tanks is pumped to the field gathering stations from which point it is then pumped to Pure-Van Pipe Line Company's station. Similar batteries are scattered throughout the field, providing ample storage facilities for all wells in the Van area. Each tank battery is diked with sufficient earthen walls. The manifolds are also placed inside the dikes.

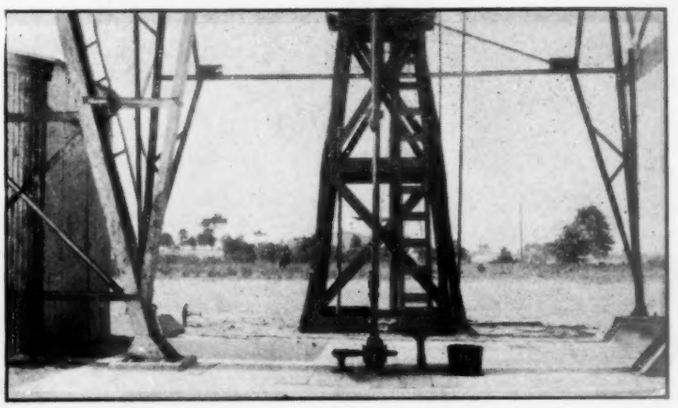
EACH well is provided with two gauges of the type shown, one indicating the tubing pressure and the other the casing pressure. Wooden steps lead to the gauges and higher valves on the Christmas tree. These gauges are not allowed to function in the open or be exposed to changing climatic conditions, each gauge being adequately covered by a small, heavy galvanized tin cover. This cover may be instantly removed by means of the handle welded to the side.



GAS production from each well as it leaves the separator, is metered through Wescott orifice meters—the 24-hour measurement records are filed as permanent records of gas production, serving as a check for gas-oil ratio determinations. Each of the meters is housed in small portable metal boxes provided with swinging doors which effectively shield the instruments from rain, wind, sand and other elements.

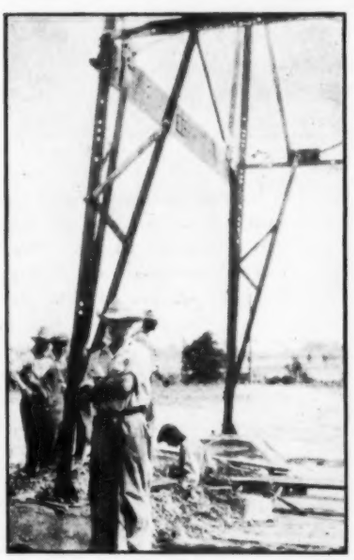


ELLISON 1, one of the six pumpers at Van, depicts modern methods of handling oil wells for neatness and economy. Concrete floors, steel derricks and sheet iron pump houses present a contrast to old wells having wooden derricks, pump houses, and oil-soaked ground for floor. Ground around the well has been leveled with graders and the slush pit covered over and all obstacles removed which might make for disorderly appearance.

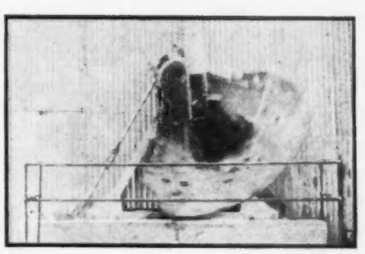


STEEL derricks for pumping rigs and concrete flooring give the pumping wells a neat appearance. Details of wellhead connections are shown in the picture. Oil and gas separator is mounted on the wooden structure in background. Gas engine power is used in pumping the wells. The neat appearance of each well in itself, is an asset to the company without considering the savings resulting from efficient equipment and avoidance of waste.

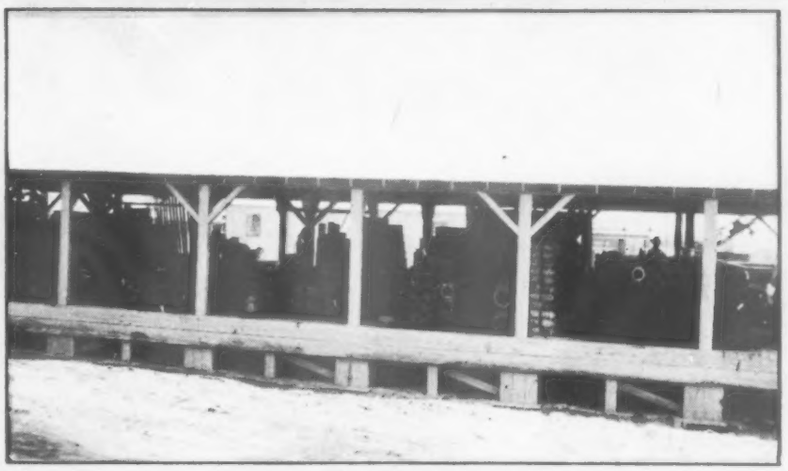
CONSTRUCTION crew digging hole for cement foundation of supplementary pulleys used in pulling rods from well by tractor power. Concrete floor of this well has rough finish which makes safety of workmen more secure and offers less danger of accident than smooth finish floors would.



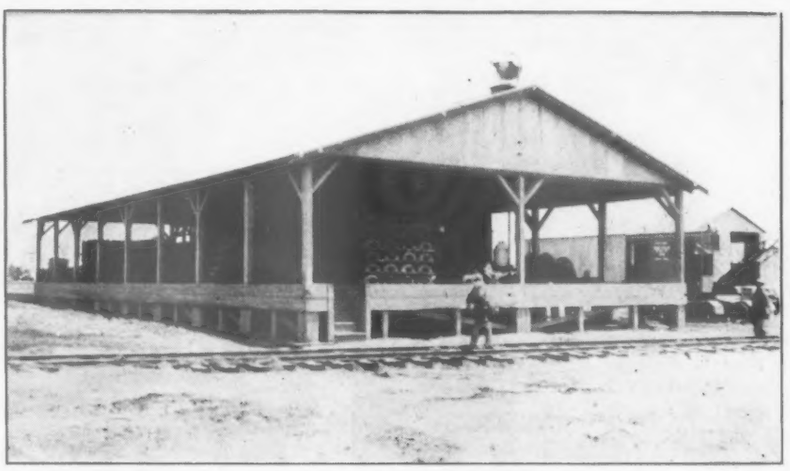
ADJUSTABLE steel counterbalances and shafts are supported by heavy concrete piers, and the moving counter-balance is surrounded by guard rails of one-inch pipe, as a safety measure.



WORKMEN installing additional equipment on Neils 1 for use in pulling rods with tractor, eliminating necessity of keeping machinery on site for this purpose. Derrick in the background shows location of Ellison 1, also a pumper. These two wells are in the southwest part of the field, one-half mile from any producers. Members of this group left to right are: Morris, Ridley, Robinson, editorial staff, THE OIL WEEKLY; A. E. Staton, construction superintendent, Pure Oil Company, and C. E. Redman, farm boss, Pure Oil Company. (Photo by Reid, The Oil Weekly.)

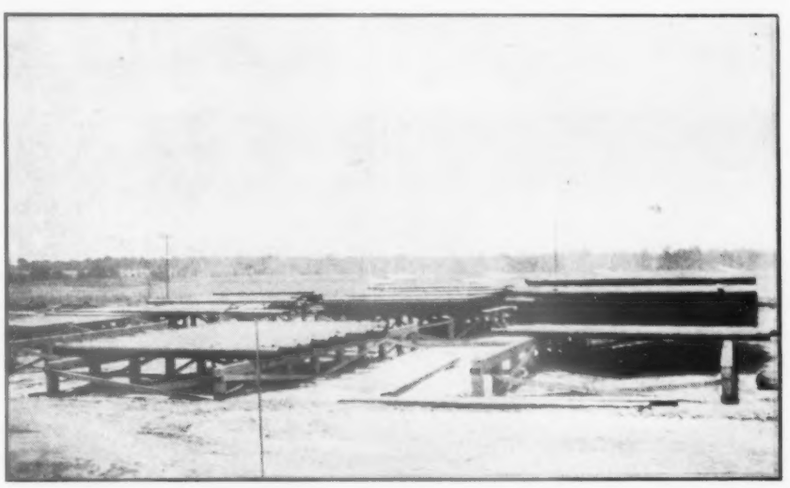


SUPPLIES of casing and pipe line equipment in yards adjacent to warehouses and Pure Oil Company field headquarters. Railroad service into this area was initiated July 5, 1930, eliminating long hauls by trucks and wagons. Pipe is racked according to the diameter, length and type of service for which it is intended. New materials are separated from used or salvaged materials. Trucks and wagon teams are employed for distribution into the active areas of the field. Before railroad facilities were brought into Van it was necessary to haul all materials and equipment from Chandler, Texas, a distance of 18 miles.



WAREHOUSE facilities are provided for all types of equipment, with the larger fittings, valves and connections stored in open-type buildings which facilitates loading into trucks. Sufficient quantities of all sizes of fittings needed for the exploitation of a major field, are kept in storage. Warehousing of materials goes forward in an orderly manner—each morning sufficient materials are dispatched to the scene of activity to finish the work at hand.

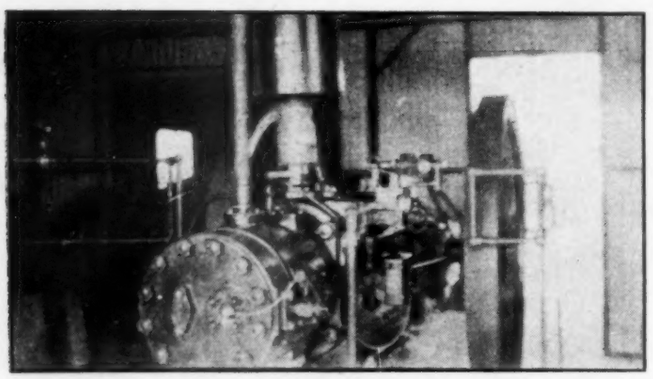
PIPE line fittings in one of the two central warehouses of Pure Oil Company, illustrates the orderly arrangement which is characteristic of all equipment throughout the field. Direct connections with Van's only railroad facilitates movement of equipment and proves an important time and money-saving factor.



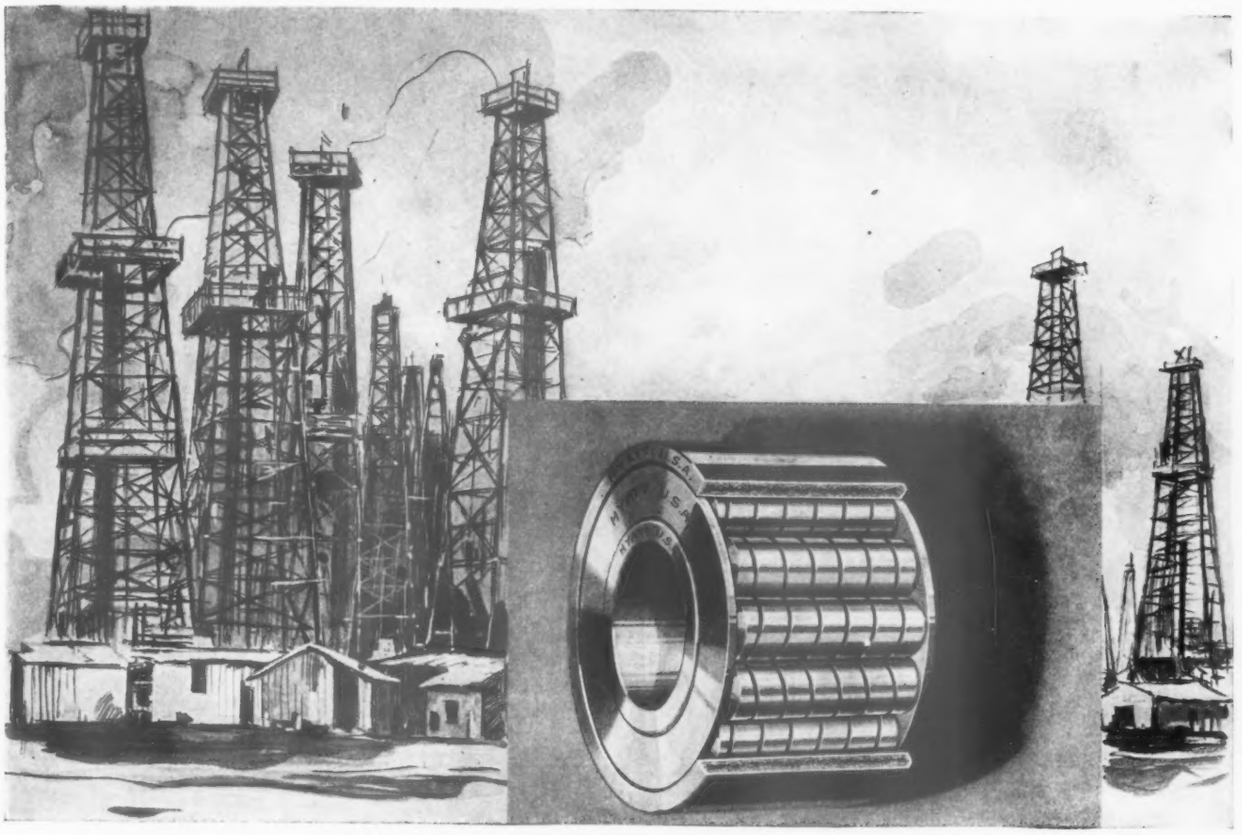
GEOLOGICAL sample shed situated just to the rear of Pure Oil Company's laboratory. E. M. Rice, geologist and paleontologist for the company, has worked out a complete system for keeping records of each well. Troughs to the right of the shed are used to put samples in after they are taken from the well and are allowed to dry in the trough before being put in their respective troughs in the shed.

E. M. RICE, in charge of all geological work of the field, is thoroughly trained in both the theory and practice of his profession, and has demonstrated his ability to competently fill the position which he holds with Pure Oil Company. Efficiency and accuracy seem to be the keynotes of his efforts in cataloging the samples from each well as well as the different samples sent him from other fields. Besides holding the position of geologist, Mr. Rice also undertakes a study of the paleontology of the field. His laboratory is well equipped for studying microscopic organisms found in samples of the various field structures.

GAS engines like this Cooper-Bessemer are employed as motive power in operating the pumping rigs in the Van field. Each moving part such as fly-wheels, belts and pulleys, is surrounded by safety guards fabricated of one-inch pipe. Each engine is provided with an air cleaner or filter which helps keep down danger of over-heating. All pumping equipment, including bull wheel, is protected from weather by corrugated iron houses. The picture is an interior view of the engine room at Pure Oil Company's Neils 1, in the southwestern section of the field.



SAMPLES from each well are kept in racks on the shelvevs, properly marked, identifying well, location and formation. These records in themselves tell the whole story of the well and serve as valuable stores of information regarding structures found in the field. The system of keeping these samples up to date has proved invaluable to the field engineers as sources of current information.



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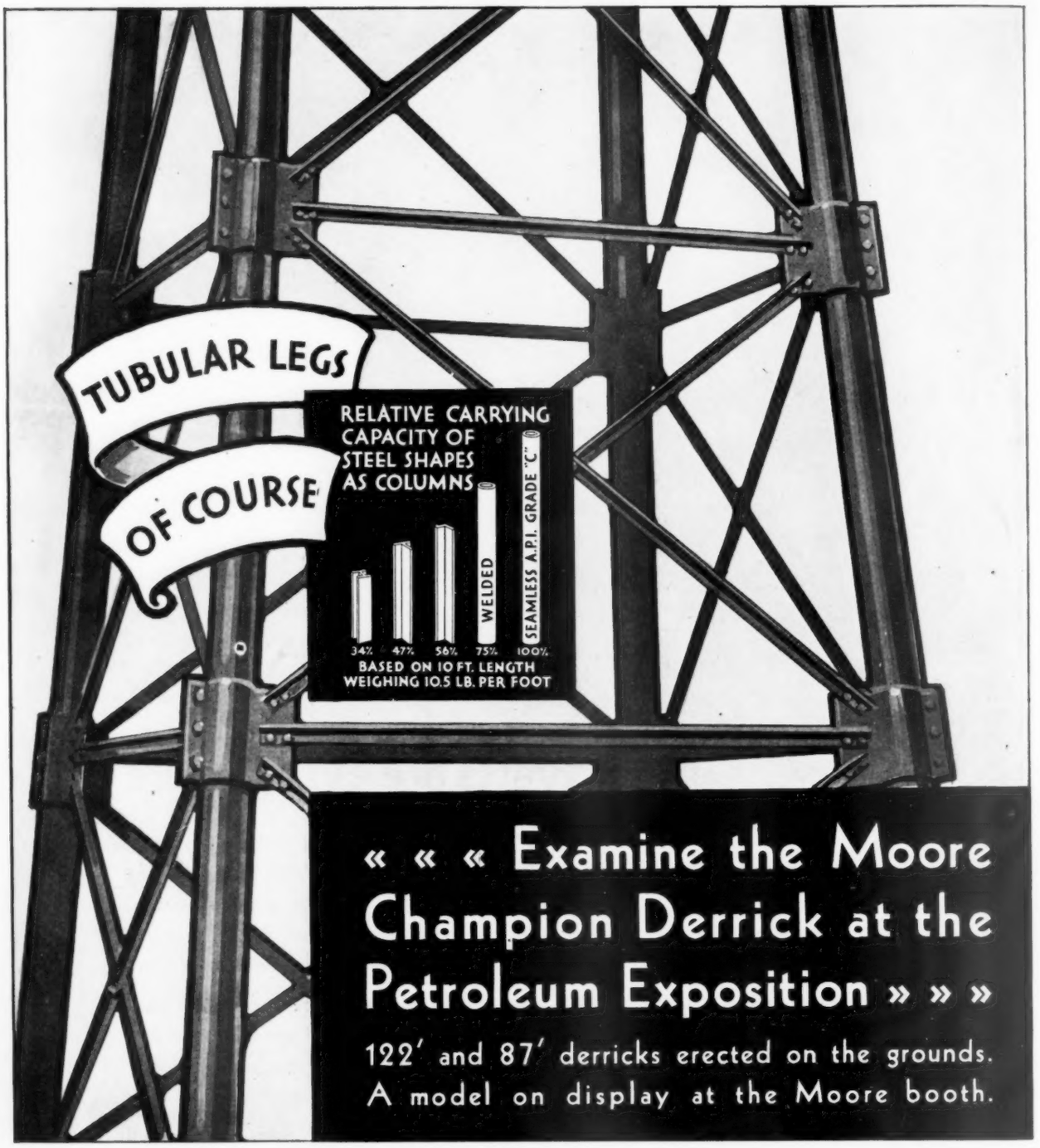
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For Drilling and Pumping

By H. E. DRALLE

Petroleum Engineer, Westinghouse Electric and Manufacturing Company

LACKING accurate statistics on the growth of the electrical load in the oil industry, only approximate values obtained from study of the various applications can be given. Conservative eestimatees place the value of installed electrical horsepower in the production end of the petroleum industry in excess of one million with the largest increases being made during the past four or five years. (Figure 1 will show roughly the characteristic trend of the application of electrical power). It is significant that the last five years has witnessed at least the doubling of electrical capacity.

This record growth is not attributable to the mere substitution of electric drive for other forms of prime movers, but to the joint efforts of the central stations, the operators and the electrical manufacturers. Central stations have recognized the need for and have made available adequate and more dependable power supplies; operators have appreciated and in a large measure stipulated the characteristics of various drives; and electrical manufacturers have contributed properly designed equipment to economically perform the service for which it is intended.

In the producing end, the most marked advances have

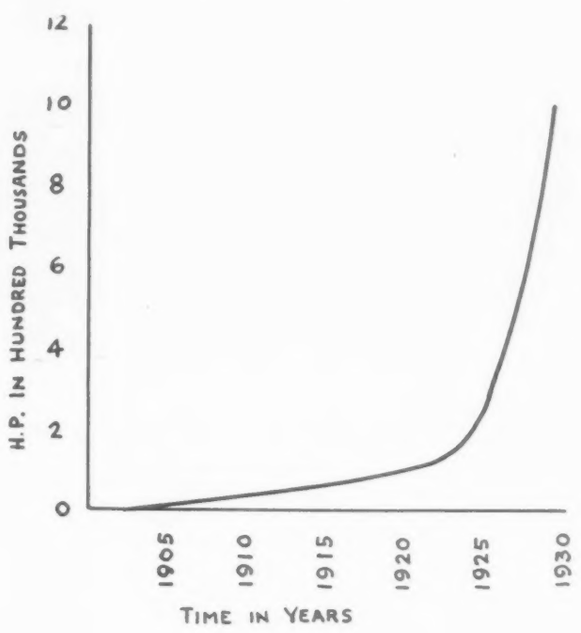


FIGURE 1

Trend of electrification in the producing end of the petroleum industry

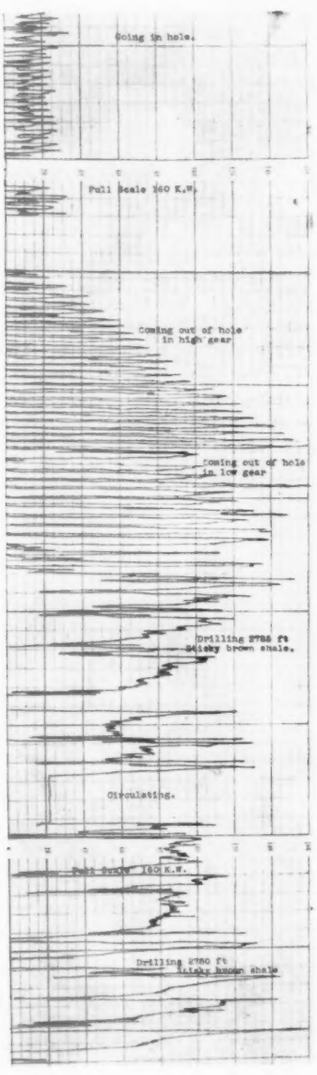
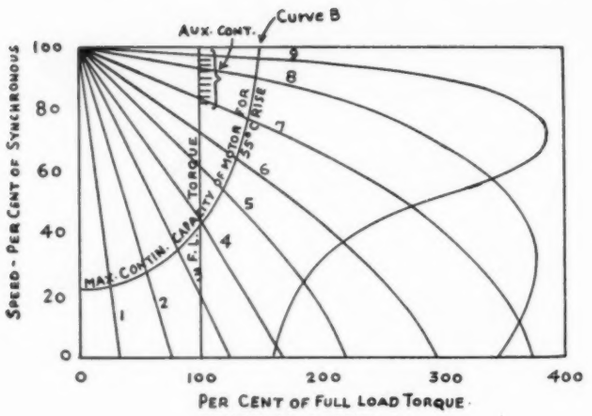


FIGURE 2

Typical loads for drilling and hoisting operations on a drilling well.



FIGURES 3 AND 4

Characteristic speed torque curves on 125 horsepower drilling motor when operating on different points of the control. Curve "B"—Per cent load which motor will carry at given temperature rise.

been in the increased horsepower ratings for both drilling and pumping motors. A few years ago, 75 horsepower motors for cable tool drilling and 100 horsepower for rotary were the largest built. Mention of larger ones evoked surprise and even opposition. Today 100 and 125 horsepower motors are in common usage on cable tool rigs and rotary ratings have increased to 250 horsepower. In all of these developments of larger motor ratings the special characteristics demanded of drilling motors have been adhered to.

A drilling motor is subjected to nominal loads during the the drilling operation but to heavy overloads during hoisting operations. This means that drilling motors must be designed for economical operation at partial loads and yet have a high thermal overload and torque capacity. Particularly are these features required in motors for deep rotary drilling where the time for coming out of the hole is of such importance.

A review of the characteristic performance curves Figure 2 on a 125 horsepower, 900 r.p.m., 440 volt, three phase, 60 cycle drilling motor, definitely shows the ratio of maximum torques to the full load motor torque on the different control points. Motors are designed for 40° temperature rise at full load torque but Figure 4 shows the high overloads which motors of this nature can carry on any point of the control for short periods without dangerously overheating.

On all motors whether for cable tools or rotary, control

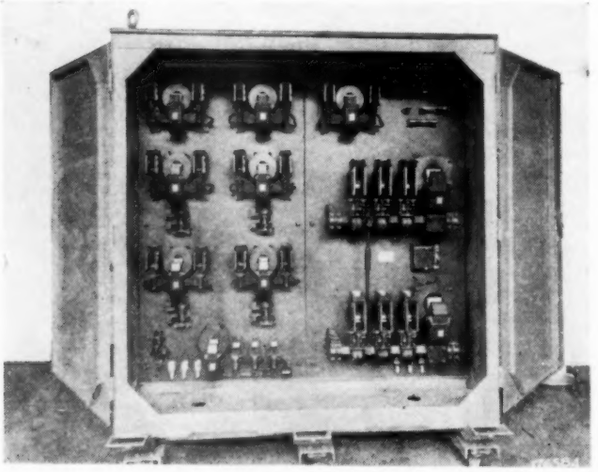


FIGURE 5

Front view magnetic drilling control panel

is always designed to meet the most exacting operating requirements. It is well known that cable tool drilling motors require much finer speed control than those in rotary service in order to obtain proper motion for the tools. On the other hand, motors for rotary service are started and stopped so much more often than those in cable tool service that it is advisable to have control which operates easily in order to minimize efforts of the driller. For this reason magnetic control operated by means of one small master switch is in common use on rotary equipment.

In all drilling equipment the tendency is toward gas protected types which involves motors with totally enclosed collectors and controls with all contacts oil immersed, to remove the hazards incident to striking stray gas pockets. These controls are made in both manual and magnetic operated types.

While considerable attention has been given to increasing the size of drilling motor, other parts of all equipment have had to keep abreast of progress in drilling methods. In rotary drilling, particularly the increase in mud pump

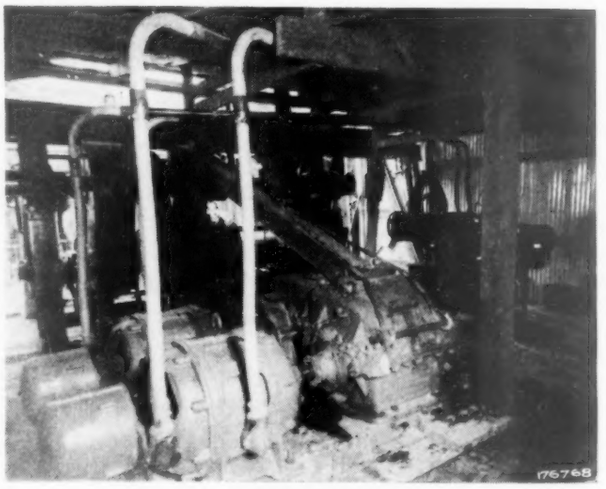


FIGURE 6

Protected type motors and control for gaseous locations shown in drilling installation

sizes from 50 to 200 horsepower while not being accomplished in one immediate effort, has been so rapid as to be almost phenomenal. The trend in mud pumps is very definite and positive toward the large ratings. As the sizes of motors increased the control has been modified to give proper operating characteristics for single, parallel or tandem operation of pumps.

In the pumping branch of the producing end there have been changes almost as radical as in drilling. From the well known 15/35 horsepower two-speed motor, the oil field standard for such a long time, the demands for larger two-speed motors have increased to include those of 20/55, 25/65, and 35/75 horsepower ratings. These are all of similar characteristics as regards speed, torques and maximum capacities. All are designed with the liberality to meet the heavy, exacting service demanded of them.

On heavy producing wells where rod and tubing jobs are frequent, where lease location and contour of the country do not lend themselves readily to portable pulling and cleaning equipment, the two-speed pumping motor making each well an individual and complete unit, still holds its early attained popularity. These motors are cap-

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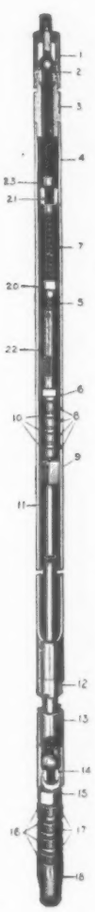
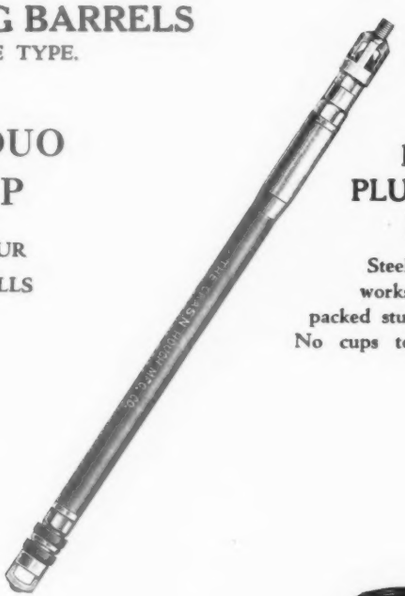


-DUO MP
YOUR WELLS



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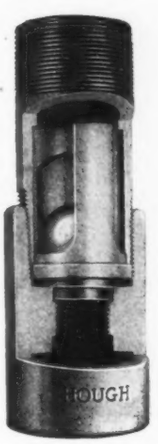
with oversize ball and seat. Provides for larger intake of fluid. It maintains production on a slower stroke and reduces cut oil. Better and easier production—longer life—less trouble.



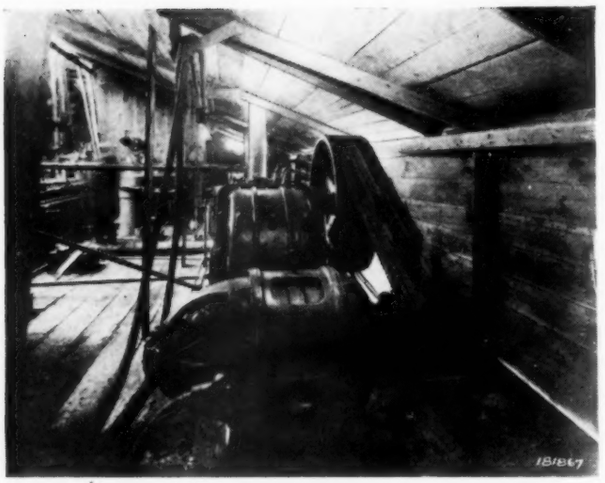


FIGURE 7
Motor driven mud pump installation with cog belt drive

able of performing every well operation even to redrilling is necessary. Pumping is done on the low speed, low horsepower connection and all other operations such as bailing, swabbing, hoisting tools and redrilling on the high speed, high horsepower connection. The future of this type of motor is assured as necessary speed changes accomplished electrically possess marked advantages over the same results obtained by mechanical means.

An interesting and economical development in connection with these larger two-speed pumping motors has been an auxiliary controller for use with the main pumping controller to form a complete cable tool drilling unit. In shallow fields the low horsepower side is actually used to swing the tools, resulting in a tremendous saving in power cost and an agreeable flexibility of drilling performance.

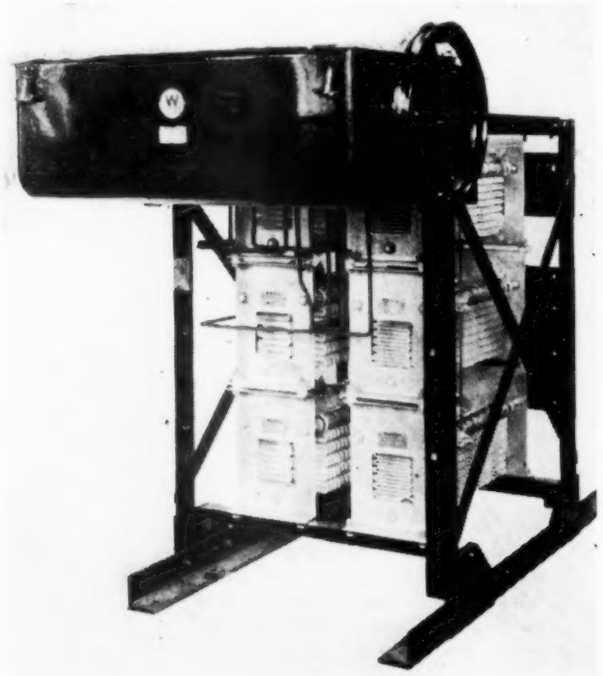


FIGURE 8
Auxiliary controller used with two-speed pumping motor control to provide fine speed adjustment for cable tool drilling

Used on the high speed connection only, these motors with auxiliary control become the equivalent of a large single speed drilling motor. With the two speed type, however, the auxiliary control need only to be moved to a new location and the pumping motor left in place to handle the pumping well.

Several years ago, in one of the important and well known oil fields of this country, a rather novel electrifica-

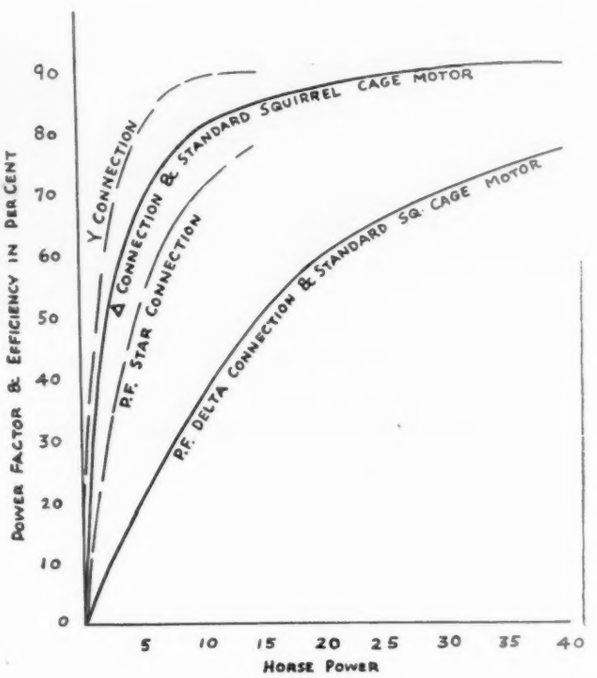


FIGURE 9
Characteristic comparative performance of high torque star-delta and squirrel cage motors

tion program was inaugurated to obtain economy in oil well pumping. Large scale electrification was carried on by using small motors of the squirrel cage type for pumping only, leaving all other well operations to be performed with portable equipment so distributed among the producing wells as to obtain full-time and hence economical utilization. This departure from the more staid and accepted practice was made only after a careful and exhaustive engineering analysis showed the scheme to be in the interest of practical economy. The adoption of this method in other fields attests the soundness of the principle of this system where local conditions permit its use. In fact the system has been applied even utilizing ratings as high as 40 horsepower, whereas it began by using only 3, 5, 7½ and 10 horsepower ratings.

For best results high torque squirrel cage motors should be used so that the wells will actually start up without rocking the beam. A modification of this system has been the use of single speed star-delta motors used on the star connection when pumping conditions are light and later changed to the delta side when pumping requirements become more severe. The advantage of using star-delta motors with their slightly higher power factor and efficiency at moderate and light loads as compared to a standard high torque single rated motor with its simpler control is questionable as efficiencies of squirrel cage motors are fairly constant over a wide range of load. Compare the characteristic curves in Figure 9 which show the star delta and straight rated motor. Any type of squirrel cage motor, whether star-delta or single rated, lends itself to the most

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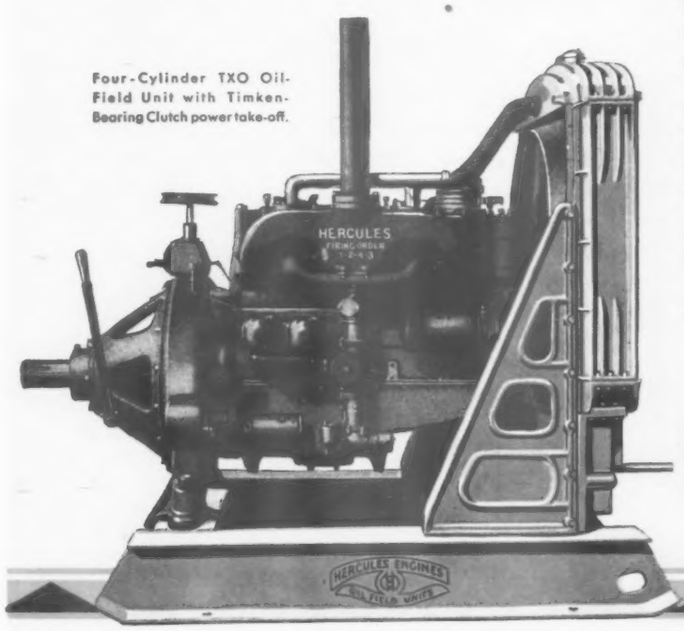

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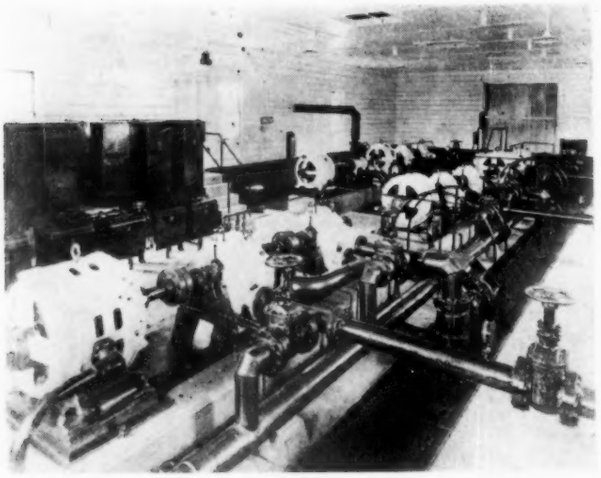

FIGURE 10

Pipe line station operated with motor driven centrifugal pumps

modern methods of pumping with multiple reduction gears. The entire equipment for a well including motor, control and gear is made weather-proof and therefore may be installed without a house to protect it from weather. These types of triple reduction units driven by squirrel cage motors will doubtless increase in popularity, since their recent increase in ratings up to 40 horsepower.

For all classes of wells, whether requiring two speed wound rotor or squirrel cage motors, the introduction of the multiple reduction gear permitting the use of high speed motors has resulted in pronounced economies in pumping and hence rapid increase in installed electrical horsepower.

On the basis of improvements and refinements in methods traceable to electrification, the greatest strides have been made in drilling and pumping. Other branches of the industry, however, have shown large gains in the electrical horsepower installed. This is true of both the transporting and refining branches.

It is significant that the major electrical installations for trunk pipe lines were just made within the past few years. Synchronous or squirrel cage motors in ratings from 150 to 1000 horsepower, 900 to 1800 r.p.m., are common in these forms of drive.

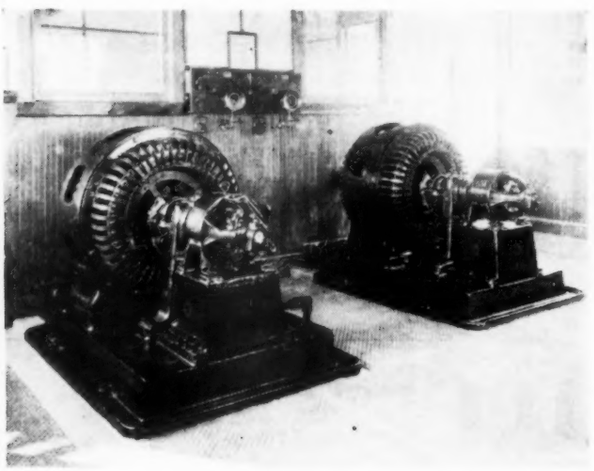

FIGURE 11

Synchronous motors driving through wall to centrifugal pumps on main pipe line installation

Gas Lift Method of Flowing Oil Wells in California

IN the California oil fields, the most valuable function of the gas lift is to bridge the gap of inefficient production which exists usually between the time that natural flow in wells is no longer efficient and the time when production is still too large to be handled by plunger pumps, is the conclusion of the United States Bureau of Mines, Department of Commerce, which has made a study of the subject. The further conclusion is drawn, however, that the gas lift will not operate satisfactorily in all wells. Even in wells in which the gas lift should function satisfactorily, its operation is nonproductive of the desired results if improperly installed and operated.

The results of this study, which have been published as Bulletin 323, "Gas Lift Method of Flowing Wells" (California practice), by H. C. Miller, are based upon comprehensive experimental investigations and field operations made by production engineers and operators. As a result, the data should be an aid to the further development of the gas-lift method. A considerable amount of data on actual gas-lift operations are given and theoretical hypotheses and conclusions are supported wherever possible by field data acquired by consultation with engineers and operators.

Mr. Miller in his study found that fundamental data concerning the operation of the gas lift are meager; that little is known about the velocities and resistances to flow of oil and gas in vertical pipes, about the design of tubes best adapted to the upward flow of gas and oil where the gas is expanding constantly, and about the rate of expansion of gas in the eductor tube. Although a knowledge of these and other data of a fundamental character are necessary to design, install, and operate gas-lift systems efficiently, until such data are available, experience and the ability to correctly interpret well records and underground conditions are of necessity the governing factors in making gas-lift installations.

Although the technique of the gas-lift is still underdeveloped and many fundamental data are lacking, production engineers in California have secured results that justify continued use of the gas lift wherever conditions are suitable for its application. While it is an axiom that each well is a separate problem which requires individual study and experimentation to attain maximum lifting efficiency, it is agreed that certain general hypotheses are applicable to nearly all wells. In preparing Bulletin 323, Mr. Miller has pointed out operating facts and generalized practices in the hope that by their use some of the time and money will be saved which is now wasted through duplication of experimental work, lost production, and inefficient producing methods and practices.

The bulletin is illustrated by 45 drawings and photographs which show data not readily presented by text. There are 29 tables, listing interesting and valuable data on many phases of the study. For example, one of the tables gives the cost of compressing gas in 19 different compressor plants in which the prime movers are operated by three different kinds of motive power. Another table lists the capital cost of 23 different compressor plants.

Copies of Bureau of Mines Bulletin 323, Gas-Lift Method of Flowing Oil Wells (California practice), may be obtained from the superintendent of documents, Government Printing Office, Washington, D. C., at a price of 30 cents.

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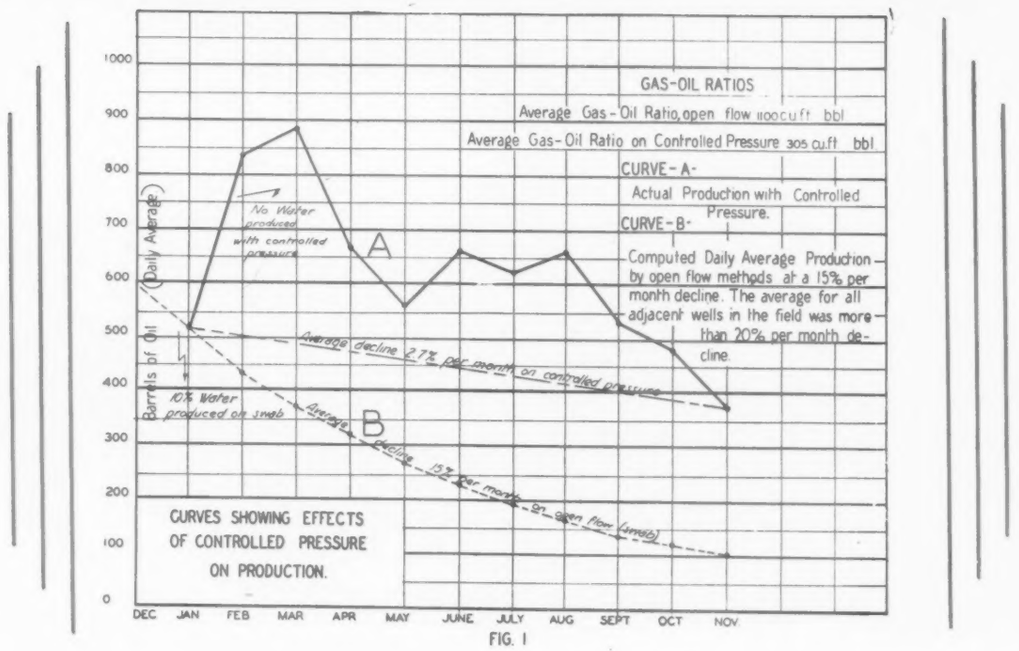
GAS-OIL RATIOS
Average Gas-Oil Ratio, open flow 1100 cu ft bbl
Average Gas-Oil Ratio on Controlled Pressure 305 cu ft bbl
CURVE-A-
Actual Production with Controlled Pressure.
CURVE-B-
Computed Daily Average Production by open flow methods at a 15% per month decline. The average for all adjacent wells in the field was more than 20% per month decline.
No Water produced with controlled pressure
A
B
Average decline 2.7% per month on controlled pressure
10% Water produced on swab
Average decline 15% per month on open flow (unswab)
CURVES SHOWING EFFECTS OF CONTROLLED PRESSURE ON PRODUCTION.
Barrels of Oil (Daily Average)
1000
900
800
700
600
500
400
300
200
100
0
DEC JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV
FIG. 1

Uniform Controlled Flow of Oil Vs. Intermittent Open Flow

By I. B. WILLIAMS*

OBVIOUSLY, the only way to produce a limited amount of oil per month from a well under open flow is to shut the well in for a part of the time. Under a controlled pressure method any desired amount may be produced continuously by designing an installation to produce the correct back pressure for the amount of oil production desired. Under such a system of controlled pressure there is a steady uniform flow of oil from the sand at all times. The sand condition is kept constantly at its highest efficiency, that is, the sand is never allowed to become uncovered and the near sand area surrounding the well is kept filled with oil highly gas charged. Under such conditions the sand is kept clean and free from deposition of heavy viscous oil because light fractions are retained in and produced with the oil uniformly. High constant fluid levels may be maintained in the well thus preventing by-passing losses of gas and gas pressure. The efficiency of the gas as a propulsive and lifting agent will be higher.

The advantages of uniform continuous flow from the sand under a controlled pressure method over that of intermittent open flow to produce a prorated amount of oil, may be seen from the following comparisons:

1. (a) Under intermittent open flow there is a course 100 per cent back pressure exerted on the sand during the time the well is shut in followed by an unfavorable minimum back pressure during the period of flow. During the period of low back pressure open-flow there is a rush of gas and oil out of the flow pipe and almost sudden unloading of the built-up flush production in the well and the surrounding near sand area, after which there is a period of gas flow accompanied by a robbing and rapid depleting of the light fractions from the oil in the immediate vicinity of the well. During this period of unloading there is a maximum differential flowing pressure from the undisturbed areas back in the formation to the bottom of the well with a consequent comparatively high velocity of water flow toward the well. The water remains stationary during the period the well is shut in and then is moved forward again at the next open flow period. Whether the water reaches the well or not, which of course it will do in time, it serves to trap off large areas of oil which probably can never be recovered.

Back Pressure Unchanged

(b) With controlled pressure and continuous flow there is no change in the constant percentage of back pressure within desirable critical limits under any rate of flow. There is no drainage of light fractions from the oil because they are retained and produced with the oil resulting in higher gravity and better grade of oil. There can be no movement of water through the sand with back pressure applied continuously up to a critical percentage of the formation pressure. Water flow through porous media such as oil sands—or for that matter through any kind of openings—is theoretically, proportional to the square root of

*Williams Oil Well Flow Device.

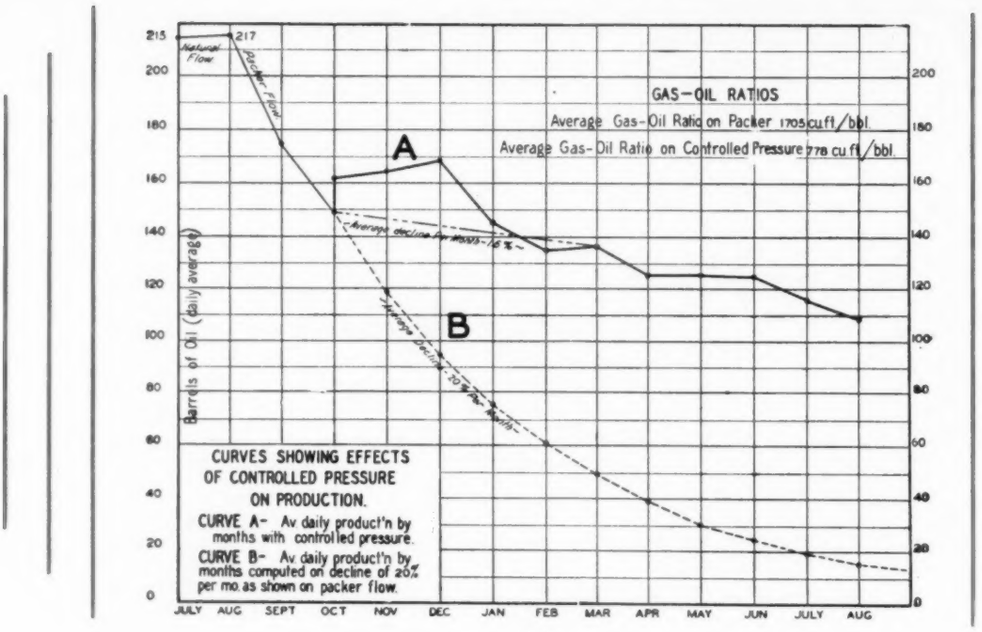
GAS—OIL RATIOS
Average Gas-Oil Ratio on Packer 1705 cu ft/bbl
Average Gas-Oil Ratio on Controlled Pressure 778 cu ft/bbl
A
B
Natural Flow
Packer Flow
Average decline for Months-16 %
Average Decline 20% Per Month
Barrels of Oil (daily average)
CURVES SHOWING EFFECTS OF CONTROLLED PRESSURE ON PRODUCTION.
CURVE A- Av daily product'n by months with controlled pressure.
CURVE B- Av daily product'n by months computed on decline of 20% per mo. as shown on packer flow.
JULY AUG SEPT OCT NOV DEC JAN FEB MAR APR MAY JUN JULY AUG

FIG.2

the differential flowing pressure to which it is subjected. There is however, a very vital factor to take into consideration with the question of water flow through an oil sand. The pore openings in the sand are microscopic in size. The effect of friction in such minute openings is enormous. Even a very small decrease in the differential often will completely prevent the movement of water through the sand. For example, during the course of some tests of research along this line, a core of typical oil sand eight inches in length required a differential pressure of 250 pounds per square inch to just force the water through it. A differential of 240 pounds failed to force the water through. Water does not absorb gas except to a limited extent. There is no change in the fluidity of the water hence its flowing characteristics are unaffected by increased static pressure. The change in the differential pressure, only, affects the quantity of water flowing per unit time.

2. (a) Under the intermittent open flow method of limiting maximum production immediately after the production is stopped for the shut-in period re-adjustment of pressure is commenced throughout the entire formation. This re-adjustment is very slow in an oil formation not nearly as fast as its unbalancing was for obvious reasons. In typical sands the complete re-adjustment might take months. Under continued subjection of intermittent flow the pressure will become very much unbalanced in the formation and it may be noted that even after a short period of such treatment the well will not respond in production on opening it up to what it was just prior to closing in. There has been created a new lower level of potential open flow production brought on by the rapid unbalancing of pressure conditions and consequent drainage of light hydrocarbons which leaves a deposition of heavy viscous oil in the sand near the bottom of the well together with water trapping of large areas of oil. Much oil will have been trapped in the formation and because the rock pressure over the whole structure has been tremendously lowered and unbalanced by such treatment, much of the oil can never be recovered. The recoverable oil reserves in the formation are reduced proportionately as the gas pressure is reduced.

Pressure Decline Slight

(b) Under controlled pressure methods of continuous flow there is a very slight drop in the formation pressure because the rate of production decline is very low (1.5 to 2.5 per cent) per month. As an example, the casing head working pressure on one well operated under a controlled pressure method has remained constant at 400 pounds over a period of more than two and a half years with a production decline average of 2.5 per cent per month over the whole time.

Under controlled pressure flow the oil is kept in a highly gas charged live condition constantly at the face of the sand. There is a comparatively low differential flowing pressure from the sand reservoir to the bottom of the well.

To successfully produce a well, or a structure under limited output (such as proration) so that the recoverable reserves will remain highest, it is necessary to:

1. Control the pressure of formation within desirable critical limits; 2. Insure an efficient mixture of the oil and gas just prior to flowing; and, 3. Produce the well with a steady uniform flow to prevent: (a) wide fluctuations of pressure at the casing head; (b) long heading; and, (c) undesirable robbing and depletion of the light fractions.

The two production curves, Figure 1 and Figure 2, show the results of uniform steady flow, under controlled pressure, compared to open-flow methods.

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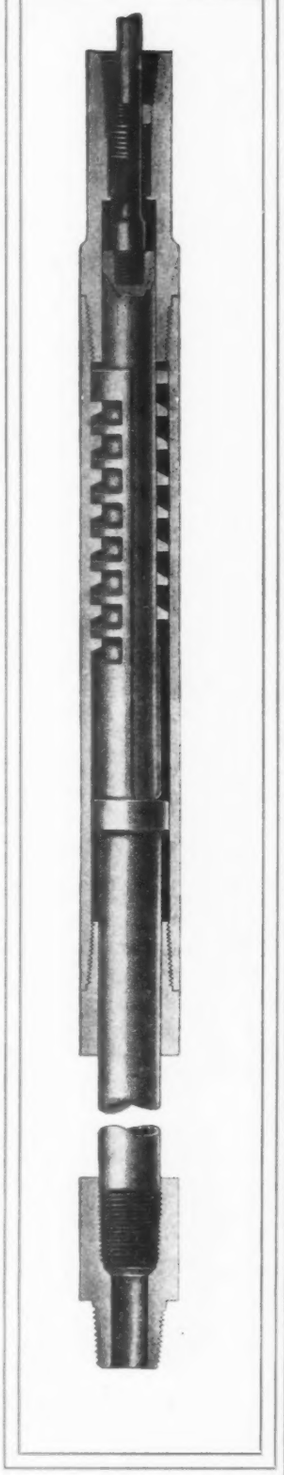

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Lubrication of Gas Engines

By D. H. FOSTER
Lubrication Engineer, Mid-Continent Petroleum Corporation

Before Burbank Chapter, A. P. I. Division of Production

GAS engines in so far as lubrication is concerned, can be divided into four general classes, depending upon the construction and principle of operation. These are the horizontal two-stroke cycle and four-stroke cycle, and the vertical two-stroke and four-stroke cycle.

The principle of operation of the horizontal and vertical gas engines are identical, provided they are the same stroke cycle.

The difference between the two and four-stroke cycle engines is in the principle of operation.

The four-stroke cycle principle of operation may be briefly described as follows:

First or charging stroke: Gas and air are drawn into the cylinder through the open inlet valve, by the piston moving away from the cylinder head, the exhaust valve being closed.

Second or compression stroke: Both inlet and exhaust valves are closed, the piston moves toward the cylinder head compressing the mixed air and gas.

Third or power stroke: Both inlet and exhaust valves are closed. The gas and air mixture is ignited causing an explosion which forces the piston away from the cylinder head.

Fourth or exhaust stroke: The inlet valve is closed, the exhaust valve is open. The piston moving toward the cylinder head forces the burned gases out through the open exhaust valve.

This completes the cycle, there being three preparatory strokes and one power stroke, hence the expression "four-stroke" cycle.

The two-stroke cycle principle of operation may be described as follows:

First: As the piston moves toward the cylinder head the exhaust and inlet ports of the cylinder are closed and the gas and air mixture is drawn into the compression chamber. This stroke may be called the inlet stroke. While this charge is being drawn into the compression chamber, another charge is being compressed in the cylinder between the piston and cylinder head.

Secondly: When the piston reaches the end of the stroke the gas and air mixture in the cylinder is ignited causing an explosion which forces the piston away from the cylinder head. As the piston travels away from the cylinder head the gas and air mixture in the compression chamber is compressed. When the end of the stroke is reached the exhaust and inlet ports are opened. The burned gases escape through the exhaust port and the compressed gas and air mixture from the compression chamber enters the cylinder.

This completes the cycle; there being one preparatory stroke and one power stroke.

Lubricants Must Be Different

Since there are three preparatory strokes to each power stroke in the four-stroke cycle engine and one preparatory stroke to each power stroke in the two-stroke cycle engine, the cylinder walls and piston of the two-stroke cycle engine are exposed to hot gases longer than the cylinder walls and piston of the four-stroke cycle engine. Consequently a lubricant used on the piston and cylinder walls of a two-stroke cycle engine must be more heat resistant than the lubricant used on the cylinder walls and piston of a four-stroke engine of the same size and operated at the same speed. Also the lubricant used on the cylinder of the two-stroke cycle engine must necessarily distribute itself readily over the cylinder walls in order to insure proper lubrication. It is essential that the lubricant used on the cylinder and piston of the four-stroke cycle engine be heat resistant and distribute itself readily over the cylinder walls but the cylinder walls are not so hot and there are three preparatory strokes to each power stroke permitting a better distribution of the oil film over the cylinder walls before it is subjected to the heat of the power stroke. Consequently an oil that gives satisfactory service on a four-stroke cycle engine may not be satisfactory on a two-stroke cycle engine.

There are three methods in general use in applying oil to the cylinders and pistons of gas engines. These methods are: by the use of a mechanical device known as a force feed lubricator, by sight feed drop oilers, and by splash caused by the crank dipping in a reservoir of oil and throwing the oil.

The use of force feed lubrication should be preferred to any other method in lubricating the cylinders and pistons. The lubricator should be designed on principles that will insure a constant uniform oil feed, independent of the height of the oil in the lubricator and independent of the viscosity of the oil. Each feed should be from a separate pump unit, independent of the other feeds and preferably have a sight feed arrangement showing the oil on its way to the engine. The feeds should be capable of being flushed and of instantaneous adjustment between wide limits.

Force Feed Lubricants

Force feed lubricators are usually driven by a cam or gear on some part of the engine with an operating lever which gives motion to the internal mechanism in the lubricator, so that the pump plungers automatically pump oil through the various oil pipes. The individual feeds of the lubricator once adjusted require no further attention. Check valves should be provided at the outlet ends of the oil pipes to insure that the pipes will always be full of oil. This will keep the pipes full even when the engine is not running and insures instant lubrication when the engine is started.

The lubricator should be adjusted to inject the oil on the piston preferably between the first and second rings when it is in the most outward or backward position. This enables the piston to carry the oil into the cylinder and act as an oil distributor, cleaner and more economical lubrication of the piston is obtained and practically no oil is wasted. Injecting the oil at any other time or place will result in a larger oil consumption, more carbon deposit and a lower margin of

safety. On small engines one feed line to the cylinder is sufficient, but on large engines more than one feed line is necessary to insure good distribution of the oil.

The sight feed drop oil was in general use before the advent of the force feed lubricator, and there is still a large number of engines in service equipped with them. Gravity sight feed drop oilers will feed approximately twice as much when full as when the oil is low in the container. If the feed is adjusted when the oiler is full the engine will suffer for the want of lubrication, if adjusted when the oil is low or about empty, an excess of oil will be fed to the cylinders and piston when the lubricator is full. The oil feed is very susceptible to temperature changes and the needle valves easily choke with dirt. Engine attendants often forget to start or stop the oil when the engine is started or stopped. Which results in a scored cylinder or a waste of oil. The oilers often go for long periods without adjusting. It is necessary that they be equipped with a check valve to prevent the blow-back of escaping gases into the sight feed.

Splash Lubrication

The installation of a force feed lubricator in the place of sight feed drop oilers often results in a reduction of as much as 50 per cent in the oil consumption.

Some small horizontal and a large number of vertical gas engines depend partly or entirely upon splash from the crank case for the lubrication of the cylinders and pistons. This method furnishes an excess of oil on the skirt of the piston and cylinder walls which is scraped off the walls by the piston and piston rings. This lubricates the piston and cylinder walls, but all the excess oil that comes in contact with the hot piston and cylinder walls drains back into the crank case. This oil soon becomes contaminated with dirt and carbon, resulting in a poor lubricant even if the original oil was the best obtainable. Therefore it soon becomes necessary to drain the crank case and fill with new or clean oil which results in an excessive oil consumption.

The wrist pin on some of the smaller gas engines is lubricated by the excess oil on the top of the piston skirt being collected in a groove and dropping through a tube into the wrist pin bearing. When this method is used it is necessary to supply a surplus of oil to the piston in order to insure lubrication of the wrist pin and the oil draining from the piston is more or less contaminated with carbon. However, most engines are equipped with separate oilers for the wrist pin and piston which permits the correct amount of oil to be fed to each.

The external parts of the engine, which include all bearings other than the piston and cylinder and valves, are on some engines lubricated by a multiple feed force feed lubricator. On others a gravity feed circulating system is used. In either of the above cases the excess oil drains from the bearings to a main reservoir, from which it is pumped to either the force feed lubricator or the gravity feed storage. The oil is usually passed through a filter after leaving the reservoir. Either of the above methods result in good lubrication with very little waste of oil.

On some engines employing crank case splash lubrication the wrist pin, crank pin, main bearings, and crosshead guides are lubricated by the splash.

On other engines the main bearings and lay shaft bearings are ring or chain oiled, usually in this case the crank and wrist pins and crosshead guides are lubricated by sight feed oil cups or by the splash system. The other external bearings are usually hand oiled.

Valves Require Little Lubrication

The valves require very little lubrication. On large engines they are usually oiled by the force feed lubricator. On small engines they are hand oiled or are equipped with sight feed oil cups. In any case they should not receive an excessive amount of oil as an excess of oil leads to the formation of carbon deposits.

The lubrication of the external parts of the gas engine causes much less trouble than the lubrication of the piston and cylinder. Probably the cause of most of the troubles encountered in lubricating the piston and cylinder is the over-feeding of oil. The surplus oil fed to the cylinder burns and chars; it collects the impurities from the gas and air, this results in a dark carbonaceous deposit of a harder or softer nature, depending upon the nature of the oil in use. Even when a good quality oil is used the oil feeds should be reduced to the exact amount required for full and efficient lubrication. This will lead to cleaner lubrication as there is not an excess of oil to be burned and the impurities find less oil to which they can adhere.

Deposits caused by over-feeding of oil accumulate behind the piston rings, often cementing the rings in their grooves so that they cease to function as a ring. Heavy wear takes place, the film is burned away, the burning gases pass the piston and in the case of double acting engines, pass from one side of the pistons to the other, igniting the fuel charge on the opposite side and causing preignition. Increased oil feed will only aggrevate the trouble.

Frequently the stuffing boxes in larger gas engines are over lubricated with the result that carbon deposits are formed, causing the packing rings to stick in their grooves. Wear follows and the gases blow past the rings.

Deposits may be formed by any one of the following causes: dust or dirt in the intake air, incomplete combustion, impurities in the gas, unsuitable oil, as well as the over-feeding of oil.

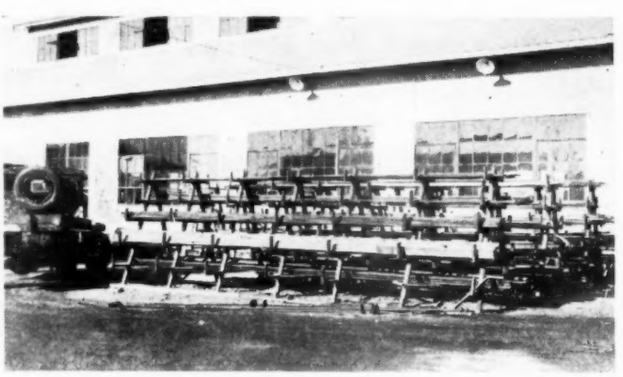
Enemies of Lubrication

Intake air is usually not filtered, even when the engines are placed in dirty surroundings, and is frequently the cause of deposits in gas engines.

Incomplete combustion will cause sooty crumbly deposits and is often caused by poor ignition or improper timing of the valves.

Impurities in the gas when natural gas is used

ORDERLY PIPE-RACK



The machine shop's contribution to the general orderliness of the Shell Oil Company's center of operations at Ventura, California, consists of a welded pipe-rack made of 2½-inch and 1¼-inch junk pipe. The main supports consist of A-frames or inverted V's made out of discarded 2½-inch line pipe, onto which arms or racks made of 1¼-inch pipe are welded. In this instance, the rack holds lengths of mild steel, of various sizes—a place for each size and each size in its place

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AQUAGEL speeds drilling at least 20% in most fields by insuring rapid removal from the well of larger cuttings than usual . . . thus preventing loss of time ordinarily spent pulverizing cuttings after they have been disengaged from the formation by the bit. The saving in time pays for the small amount of AQUAGEL used . . . many times over.

AQUAGEL prevents caving and allows you to drill through caving or heaving shales without loss of time. Each day's time lost fighting cavings costs you at least $100 for labor . . . and each day's time lost completing a well means loss of a day on production. In a well ultimately completed, at 5,000 barrels with oil selling at $1.50 per barrel each day's delay costs you $7,500 . . . A few tons of AQUAGEL will make such a saving possible.

AQUAGEL prevents loss of circulation and gas-cutting, one or the other of which is responsible for 95% of the blowouts. Preventing a blowout may result in a saving of many thousands of dollars . . . Aquagel lubricates pump liners, pistons, drill pipe, casing and walls of the hole, preventing abrasion and lowering power costs. In many wells, the saving in pump parts alone has more than paid for all AQUAGEL used.

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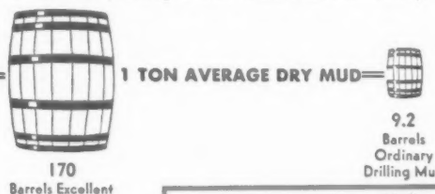
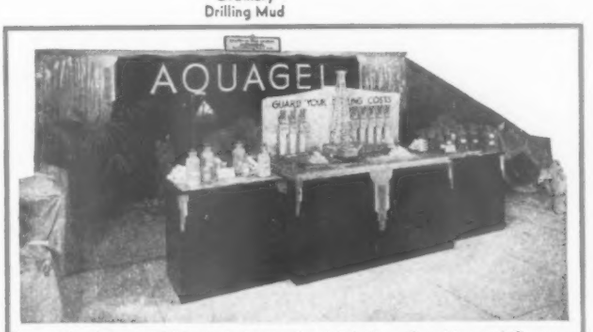


One ton of AQUAGEL, mixed with water, will produce 170 barrels of excellent drilling mud. One ton of average Mid-Continent dry mud such as is used in drilling wells, will produce 9.2 barrels of ordinary drilling mud. Where it is necessary to buy mud, you can afford to pay, on volume basis alone, 18.4 times as much per ton for AQUAGEL as average Mid-Continent drilling mud.



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is usually caused by dirt in the pipes and rusting of the inside of the gas lines.

Unsuitable oil may mean an oil that will not stand up under the temperatures encountered on the cylinder walls, or an oil that will not properly distribute itself over the piston due to too high viscosity.

Deposits may form on the mixing and inlet valves, in the cylinders, on the pistons, behind and between the rings, on the exhaust valves and in the stuffing boxes.

In small gas engines the frictional losses average from 15 to 30 per cent of the rated horsepower, while in the larger sizes the frictional losses average from 10 to 20 per cent of the rated horsepower. This loss is constant and independent of the actual engineload. Frictional losses in vertical gas engines are usually less than in the horizontal gas engine.

The use of an unsuitable oil will often result in a further loss of five to 10 per cent unnecessary friction, even though the engine appears to be operating satisfactorily.

It is important that the oil shall have a suitable viscosity for the particular engine on which it is to be used.

Too heavy an oil does not spread over the piston surface and causes an increase in friction due to the heavy oil drag on the piston. Impurities in gas and air cling to the heavy oil and bake into crust-like deposits.

Too light an oil breaks down under the heat in the cylinder, losing its sealing power, causing excessive friction and wear. Carbonaceous deposits caused from too light an oil will be found to contain considerable iron and iron exides, due to the wear on the piston and cylinders.

The lubrication of the bearings usually gives no trouble and usually the oil that is used on the piston gives good service on the bearings. Occasionally, however, it is advisable to use the two oils, this of course depends on the size of engines, the operation, the bearing pressure and method of applying the oil.

On ring oiled bearings only sufficient oil should be added to maintain the proper level in the reservoir. The reservoirs should be emptied, cleaned and re-filled at intervals from three to six months, depending upon the dirt in the engine room.

The wrist pin requires care in lubrication, as on some engines it is located in the interior of the heated hollow trunk piston where it is subjected to high temperatures. The pressures on the wrist pin are high and as the oscillating motion of the connecting rod is slight, the oil spreads with difficulty over the bearings surface. Consequently the lasting and lubricating properties of the oil used are very important.

The waste oil coming from the piston and wrist pin in small and medium sized engines should not be allowed to drain into the crank pit and contaminate the oil coming from the crank pin.

Vertical gas engines usually operate at high speeds. It is important that the correct oil be used in the crank chamber. The oil should give continued perfect service notwithstanding the severe conditions of speed and temperature to which it is exposed.

Home-made truck for tilting heavy drums of lubricating oil, turpentine or other liquids, found on Houston Gulf Gas Company's compressor lease at Refugio

Consideration must be given to the temperature of the oil in circulation as with a high oil temperature it is necessary to use an oil heavy in body.

It must be kept in mind that the lubrication requirements of the cylinders of a vertical gas engine are different from the lubrication requirements of the external moving parts enclosed in the crank case. When lubricated by the splash or pump circulating system the oil must meet the requirements of both. But when the engine is constructed with a distance piece between the cylinder and crank chamber the lubrication of the cylinders and bearings may preferably be carried out by means of two oils using two separate and distinct systems, such as force feed lubricator for cylinders and splash or force feed lubricators for bearings.

In selecting the correct grade of oil to properly lubricate an engine it is necessary to consider the various influencing factors, such as piston clearance, number of piston rings, whether the piston is supported by external means or whether the weight of the piston is sliding on the cylinder, the temperature of the water leaving the cooling jacket, the method of lubrication, also whether there are any mechanical or operating conditions which call for special consideration.

The Saybolt viscosity at 100 degrees F. is usually used in indicating the correct grade of lubricant. When the gas engines are in good mechanical condition: the small four-stroke cycle gas engines up to 50 horsepower per cylinder require an oil with a viscosity between 180 and 300, the medium size four-stroke cycle gas engines between 80 and 150 horsepower per cylinder and small vertical engines require an oil with a viscosity of 300 to 400, while for external lubrication an oil with viscosity of 180 to 400 is satisfactory. Large horizontal and vertical four-stroke cycle engines, all sizes of two-stroke cycle engines and small four-stroke cycle engines with insufficient cooling systems require oils as high as 650 viscosity.

Some engine manufacturers furnish specifications for the oils to be used on the engines, others recommend some well known oil or its equivalent, others depend on the recommendations of the oil companies.

In regard to the quantity of oil required to properly lubricate a gas engine it has been found that gas engines up to 50 horsepower require from 1¼ to 3 1/6 pints of oil per eight hours continuous operation.

For large gas engines the oil consumption ranges from 4/5 to 2½ pints per 100 horsepower per eight hours. This consumption is divided among cylinders and pistons, rod packing, and bearings approximately in the ratios of 35, 15 and 50 per cent, respectively, the average will be about 1¼ pints per 100 horsepower per eight hours continuous service.

Tests have shown there are approximately 20,350 drops in a pint of gas engine oil: Based on this if a force feed lubricator is furnishing oil to the engine at the rate of 85 drops per minute the consumption will amount to one quart in eight hours.

This can be used as a rough estimate in determining the consumption of a gas engine equipped with a force feed lubricator.

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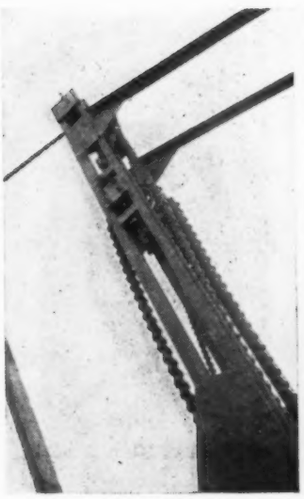
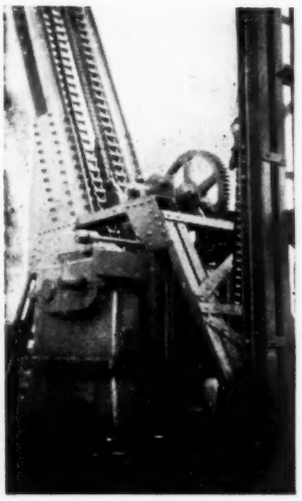


Showing screws for adjusting stroke of Concordia pump



Close-up showing drive shaft for operation of tubing hoist, Concordia pump

Engineer Werner Steuble, inventor of the Concordia pump

Concordia long stroke pump

Concordia Long Stroke Pump *Designed for* Deep Wells *in* Roumania

By ROY E. LEIGH
Special Foreign Representative

ENGINEER WERNER STEUBLE, of the technical staff of the Roumanian *Societe* "Concordia," has designed a long-stroke pumping unit which is regarded as an important contribution to deep-well pumping practices. A trial unit has been manufactured in the company's shops, and will shortly be placed in service.

This first unit has a maximum stroke of four meters, or 13 feet; but, if it proves successful, there is no reason why machines of greater capacity cannot be constructed. The "Concordia Pump," as it has been named by its inventor in honor of his company, represents a new idea in pumping, as it departs entirely from the rotating crank as a means of imparting a perpendicular stroke to the sucker rods.

Its essential idea is incorporated in two parallel chains which travel in a fixed orbit over two sets of cog-wheels, as shown in the accompanying photograph. The lower set is actuated by a small electric motor operating through a series of reduction gears. These two parallel chains are made of standard A. P. I. No. 4 rotary chain. A third and smaller chain runs between them and is fastened to them at opposite points by means of a pinion. As the two parallel chains rotate over their cog-wheels, this pinion travels back and forth over their orbit and imparts a perpendicular stroke to the third chain, which is attached to the polish rod on one end and to a set of counter-weights on the other. The two ends of the third chain are suspended over sheaves mounted on two metal masts of a height slightly greater than the maximum stroke of the pump.

The counter-weights are slightly heavier than the combined weight of the sucker rods and fluid column, so as to regularize the load on the motor. Theoretically, the counter-weights will lift the load on the up-stroke, with the motor laboring only on the down-stroke. The pinion is made of soft metal, as it is designed to give way in case the rods should break or become stuck in the hole, in which event the third chain, polish rod, and sucker rods will come to rest, while the two parallel chains will continue to run idle over their four pulleys until the accident is discovered. In other words, the pinion will break under the un-balanced load of either the rods or the counter-weights.

The stroke may be adjusted by shortening the orbit of the parrallel chains. Adjusting screws designed for this purpose are shown in the close up, Figure "A". The speed is adjusted by changing a pinion in the reduction gear.

A drive-shaft protrudes from the reduction gear, on which a pulley may be installed for transmitting power to a separate hoisting unit used for handling rods and tubing. (See close-up, Figure "B")

Engineer Steuble believes that his machine is sufficiently sturdy to handle wells up to 3,000 meters in depth, or deeper than any wells now on the pump anywhere in the world.

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OIL BATH ROTARY

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Two piece Lower Hold Down Rings designed for very close adjustment, and positively locked.

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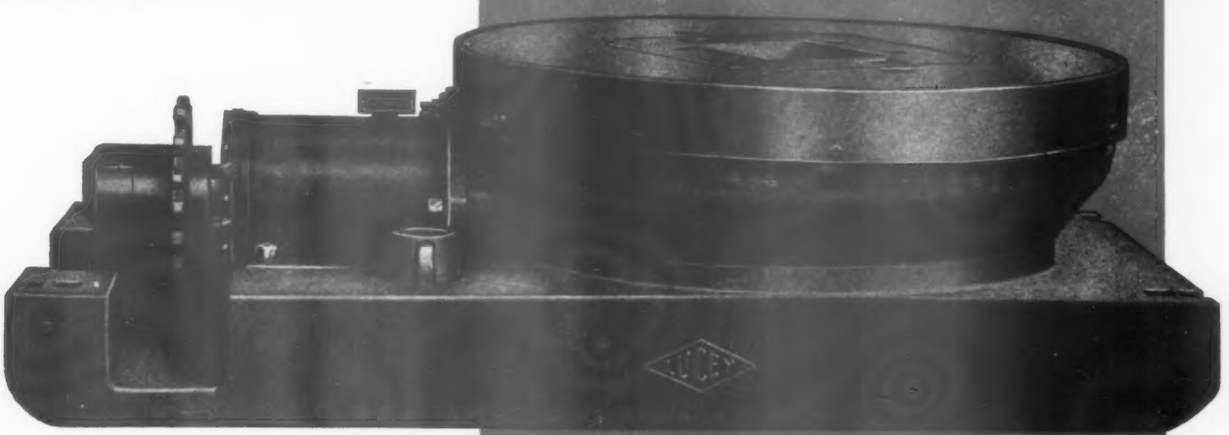

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Outside diameter of table	58¾"
Height overall	29"
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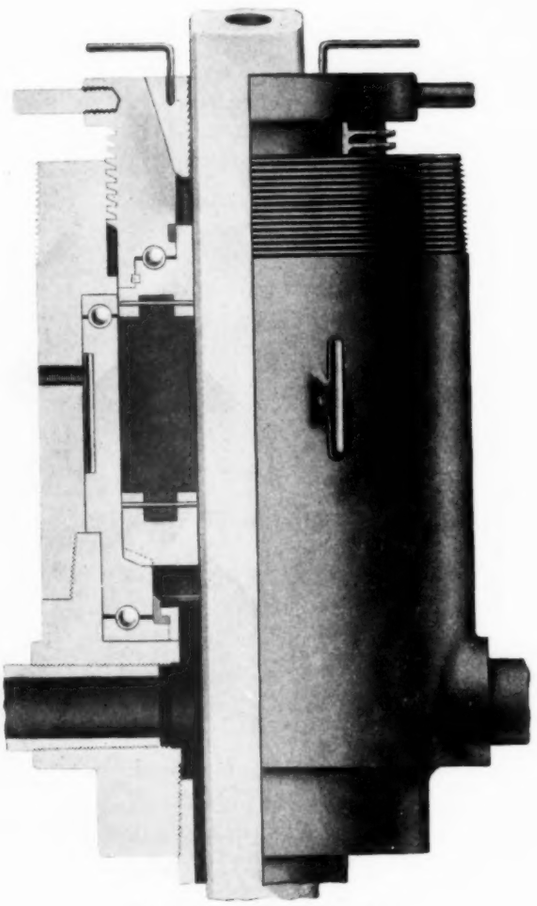

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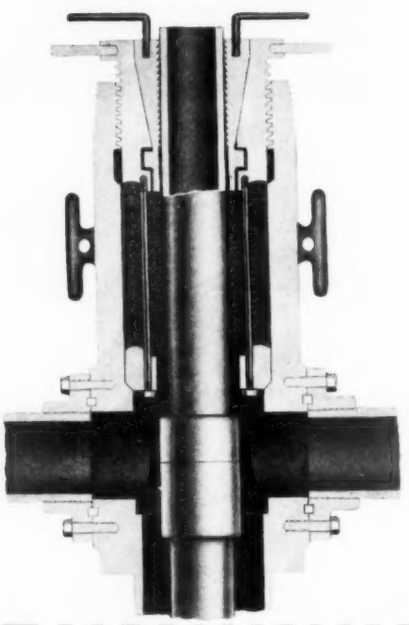

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Exposition Equipment Directory

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ACME FISHING TOOL COMPANY
Parkersburg, West Virginia

Booth No. 134 — Texas Building

ADVANCE RUMELY THRESHER COMPANY
Tulsa, Oklahoma

Lot B on Pennsylvania Avenue.

Exhibit: Rumely DoAll Winch Tractor, Rumely DoAll Stationary Winch, OilPull Winch Tractor, Rumely, Rumely OilPull Stationary Winch.

Representatives: Fred E. Cooper, E. L. Kirkpatrick, Joe Brasier, Jess Cooper, W. A. Thomas, A. G. Bailey, Harry Vance.

AHLBERG BEARING COMPANY
Chicago, Illinois

Booth No. 17-18 — California Building

Exhibit: Anti-friction bearings, as employed in the oil field, will form the basis of an interesting ball bearing display featuring "CJB" Master Ball Bearings and the Ahlberg Ground Bearing—the replacement bearing that saves 40%.

Representatives: Mr. C. J. Bender, president; Mr. F. O. Burkholder, vice president and general sales manager; Mr. R. H. Kelly, district sales manager; Mr. W. O. Gaffney, manager Osage Bearing Co., Tulsa, Okla. (authorized distributor.)

AIRCRAFT AGE
Kansas City, Mo.

Lot P Outside

AIR REDUCTION SALES COMPANY
New York City

Booth No. 32 — Oklahoma Building

Exhibit: Airco Oxygen, Acetylene, and Hand Welding Apparatus, Motor Driven Oxyacetylene Cutting Machines.

Representatives: P. S. Julian, R. W. Reeves, R. R. Thompson, O. F. Wilkinson, W. R. Ost, G. Van Alstyne.

AIR REDUCTION SALES COMPANY
Oklahoma City, Oklahoma

Booth No. 33-34 — Oklahoma Building

ALEXANDER BROS., INC.
Philadelphia, Pennsylvania

Booth No. 56 — R. & M. Building

ALLEGHENY STEEL COMPANY
St. Louis, Missouri

Booth No. 10 — Oklahoma Building

Exhibit: Allegheny Metal Cracking Still Tubes, Allegheny Metal Heat Exchanger Tubes, Allegheny Metal Condensor Tubes, Allegheny Metal Bubble Caps, Allegheny Metal Bolts and Rivets, Allegheny Metal Sheets, Allegheny Metal Bars. Same items as above in Ascoloy-33, Ascoloy-44 castings.

Representatives: Mr. M. B. McPherson, Mr. H. S. Brautigam.

GEO. B. ALLEN COMPANY
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Booth No. 125 — Texas Building

THE LOUIS ALLIS CO.
Milwaukee, Wisconsin

Booth No. 44 — California Building

Exhibit: "Explosion-Proof" electric motor (75 H. P. 1800 R. P. M.) approved by Underwriters' Laboratories for operation in explosive atmospheres where gasoline and other petroleum products are made, used, or handled. "Explosion-Proof" Motor (5 H. P. 1800 R. P. M.) with section cut away to show "explosion-proof" safety features which smother any flame which might occur from an explosion inside of the motor thus preventing flame from igniting surrounding vapors.

Representatives: E. F. Le Noir, L. F. Keely.

ALLIS-CHALMERS MANUFACTURING CO.
Wilwaukee, Wisconsin

Booth Nos. 87-88-123-124 and Outside — Oklahoma Bldg.

Exhibit: Explosion-proof motors, Centrifugal Pumping Units, Single Reduction Texrope Unit, Oil Field Winches, Pipe Laying Booms, Monarch and Industrial Tractors.

Representatives: W. Ellzey Brown, D. M. McCarger, R. A. Seymours, C. M. Starkey.

ALLIS-CHALMERS MANUFACTURING CO.
Springfield, Illinois

Right of Main Entrance

ALLSTEEL PRODUCTS MANUFACTURING CO.
Wichita, Kansas

Outside Space in Lot F

Exhibit: Model ST-60 CARDWELL ALLSTEEL oil field winch mounted on Model 60 "Caterpillar" Tractor. Model SA-30 CARDWELL ALLSTEEL oil field winch mounted on Model 30 "Caterpillar" Tractor. Model 20 CARDWELL ALLSTEEL oil field winch mounted on Model 20 "Caterpillar" Tractor. Model PR-30 CARDWELL ALLSTEEL pipeline winch mounted on Model 30 "Caterpillar" Tractor. Model 20 CARDWELL ALLSTEEL Backfiller mounted on Model 20 "Caterpillar" Tractor.

Representatives: H. W. Cardwell, president; H. R. Laudermilk, vice president; L. R. Austin, sales manager; Wm. Guier, chief engineer; Harley Reece, service representative.

ALUMINUM COMPANY OF AMERICA
Pittsburgh, Pennsylvania

Booth Nos. 91-92-119-120 — Oklahoma Building

Exhibit: Aluminum Paint, Aluminum Shingles, Aluminum Pipe Fittings, Aluminum Conduit, Aluminum Foil, and various castings and forgings which enter into the Oil Industry.

Representatives: Mr. J. O. Chesley, Mr. E. B. Wilber, Mr. A. B. Williams, Mr. F. H. Bentley, Mr. Karl V. Alexander, Mr. I. C. Honegger, Mr. A. H. Grosch, Mr. F. C. Shoupe.

AMERICAN BRASS COMPANY
Waterbury, Connecticut

Booth Nos. 108-109 — Oklahoma Building

AMERICAN BOSCH MAGNETO CORPORATION
Springfield, Massassachusetts

Open Space Lot F

AMERICAN CABLE COMPANY
Bridgeport, Connecticut

Booth Nos. 97-98 — Texas Building

AMERICAN CAST IRON PIPE COMPANY
Birmingham, Alabama

Lot Q

AMERICAN FOMON COMPANY
Philadelphia, Pennsylvania

Booth Nos. 44-45 — Oklahoma Building

Exhibit: FOMON Portable Foam Generator, FOMON Portable Foam Tower, Fire Extinguishers of Various Types. In addition to the equipment, drawings of typical installations for the protection of oil refineries will be available for discussion with interested parties.

Representatives: G. Gordon Urquhart, C. L. Moon, W. L. Walker.

SURWEL Clinograph

Surveys direction and degree of deviation

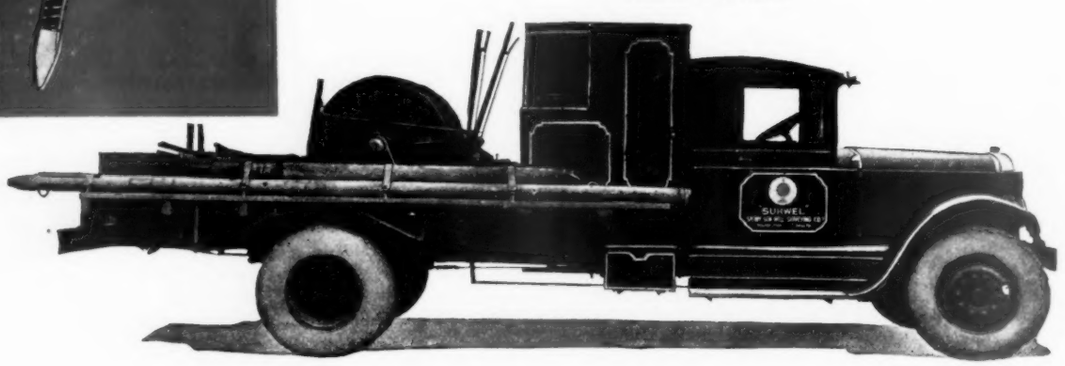
ONE of the most progressive steps in drilling operation is the well survey — safeguarding the driller from too great a deviation from the vertical. Unfortunately for wells already drilled such surveys do not go far enough. They fail to tell the *direction* of the deviation. The operator therefore does not know whether his failure to strike oil is due to drifting away from pay sand or crossing into close proximity to another well.

Now comes the SURWEL CLINOGRAPH, an instrument that tells photographically and accurately, not only the degree of deviation but the exact direction of the drift. Wells which have been abandoned in likely territory should be surveyed by the SURWEL. Geologists, too, will find a survey with SURWEL very helpful.

SURWEL is not sold but operated on a service basis by our own experienced crew. Costs and complete data will be given on request.

SPERRY-SUN WELL

Main Office — 1608 WALNUT STREET
PHILADELPHIA



SYFO CLINOGRAPH
For Surveying Drilling Progress

"MORE haste, less speed" is an axiom that has been accepted by drillers today as worth following. Not only is more care being taken to hold drilling to the vertical but daily check-ups are the order of the day.

The SYFO CLINOGRAPH is a most practical instrument for surveying drilling progress. It is safe—no acids employed. It is fast—operates on drill stem, wire line or by "Go-Devil" method. The record is on paper—easily read and permanent. It is extremely accurate. It is inexpensive—both to operate because it delays drilling progress for only short periods and because the lease cost is nominal.

Many operators today, knowing the accuracy of the SYFO Clinograph, are insisting that the driller use the SYFO, allowing him only a fixed latitude from the vertical.

The SYFO Clinograph is not sold, but leased at nominal rates. Being made in different sizes for different depths, it is necessary for the drilling company to advise the conditions under which the surveying will be done before quotation can be made.

Write for complete descriptive literature

SURVEYING CO.

Dallas, Texas
1504 FIRST NAT. BANK BLDG.

Tulsa, Oklahoma
402 PETROLEUM BLDG.

Houston, Texas
1420 ESPERSON BLDG.

THE AMERICAN GAS ASSOCIATION
Booth No. 16 — Scientific and Technical Building

AMERICAN HAMMERED PISTON RING CO.
Baltimore, Maryland

Booth No. 22 — R. & M. Building

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS
Booth No. 19 — Scientific and Technical Building

AMERICAN IRON AND MACHINE WORKS CO.
Oklahoma City, Oklahoma

Booth Nos. 61-62 — California Building

Exhibit: AMERICAN: Releasing and Circulating Overshots, Rock Bit Wrenches, Milling Shoes, Flexible Coupling for Rock Bit Lubricators, Steel Tool Houses, Steel Tool Boxes, Forged Steel Wall Hooks, Rock Bit Breakout Blocks, Paraffin Bits, Forged Steel Drill Collars, Female Die Nipples, Tapered Taps, Forged Steel Subs, Rotary Shoes, Cone Fishing Baskets, Steam Lubricators, Side Tracking Mills, Combination Reverse and Throttle Levers, Steel Engine Foundations, Automatic Catheads, Rotary Milling Tools, Myracle Sucker Rod Sockets, Surface Bit Blades for Rock Bits, Drill Pipe Float Valves, Rock Bit Vises, Casing Suspension and Blowout Preventors, Lead Plug, Rock Bit Cone Fishing Sockets, Rock Bit Vise, Steel Whipstocks, Inside Pipe Cutters for Drill Pipe or Casing, Adjustable Steel Rig Braces, Fish Tail Bits, Pipe Rackers, "Sure Grip" Hose Clamp, Releasing and Circulation Spear.

Representatives: Earl Miller, J. F. Cailloux, H. M. Myracle, John R. Riley, Seth W. Smith, Harry J. Byers, Ed Hinton, R. J. Morgan, G. C. (Red) Ross, Geo. S. Hinkle, P. K. Ridge, D. M. Gahagan, E. W. Herring, Bob F. Phillips.

AMERICAN LAFRANCE AND FOAMITE CO.
El Mira, New York

Booth Nos. 95-96 — Texas Building

AMERICAN LIQUID METER COMPANY
Alhambra, California

Booth Nos. 39-40-41-42 — Scientific and Technical Building

AMERICAN PETROLEUM INSTITUTE
New York City

Booth No. 19 — S. & T. Building

AMERICAN ROLLING MILL COMPANY
Middletown, Ohio

Booth Nos. 114-115 — Oklahoma Building

Exhibit: Complete display of Armco Spiral Welded Pipe, photographs of installations of sheet and plate in the oil industry.

Representatives: R. E. Walker (Sheffield Steel Corporation.)

AMERICAN SAND-BANUM CO., INC.
New York, N. Y.

Booth No. 43 — California Building

Exhibit: Sand-Banum, Anti-Scale Preparation, presents an entirely new way method of elimination of scale in any kind of water at any temperature. Put up in small containers, it is applied once to four times a month. Scale is eliminated entirely mechanically, not chemically. It treats the solids as they are thrown out of solution. Presents foaming, priming, corrosion and is not carried over with the steam. Contains none of the usual Boiler Chemicals, like ammonia, graphite, water-glass and none of the caustic chemicals such as soda, lye, acid, potash or chloride. It eliminates all old scale in from six to twelve weeks, and prevents formation of new scale. The product is patented all over the world, including the United States (U. S. Patent No. 1, 557,349). Further Patents Pending. Material for test will be furnished at the booth. Large stock carried at Tulsa, Oklahoma, by ROONEY-KRAFFT COMPANY.

Representatives: Charles S. Krafft, Edwin L. Hawkins, Victor Weedy.

AMERICAN SIGN COMPANY
Kalamazoo, Michigan

Booth No. 50 — California Building

AMERICAN SOCIETY OF PETROLEUM GEOLOGISTS
Tulsa, Oklahoma

Booth No. 17 — S. & T. Building

AMERICAN STEEL WORKS
Kansas City, Missouri

Booth No. 63 — Texas Building

Exhibit: Asphalt, Tar and Enamel Heating Kettles; Oil Burners and Torches; Pipe Bending Shields and Torches; Pouring Pots and Buckets; Pipe Cleaners; Priming and Daubing Brushes; Wire Brushes; Pipe Trowels and Hand Spreading Cloths.

Representatives: R. M. Soper, C. R. Huston, L. H. Phillips.

AMERICAN TANK COMPANY
Oklahoma City, Oklahoma

Lot B

THE AMERICAN WELL WORKS
Aurora, Illinois

Open Space Lot Block E

Exhibit: Will Exhibit Oil well pumping machinery and oil well centrifugal pumps and deep well turbine pumps. All material manufactured by the American Well Works, with the exception of course of electric motors and such items.

Representatives: C. S. Carter, 711 Thompson Building, Tulsa, (sales representative); Wm. M. Pierce, 701 Elm St., Dallas, Texas, (sales representative); C. O. McLean, 4601 Trobridge St., El Paso, Texas, (sales representative); M. K. Griggs, 440 West Building, Houston, Texas, (sales representative).

APPLETON ELECTRIC COMPANY
Chicago, Illinois

Booth Nos. 61-62 — Refiners and Marketers Building

Exhibit: Threaded and No-Thread Malleable Unilets, and Malleable Conduit Fittings. Portable and Constant Duty Reelites (automatic spring driven Extension Reels for Electric Cable). Exterior Floodlight Projectors.

Representatives: Mr. R. V. Hawkins, Mr. W. H. Jennings, Mr. A. B. Spicer, Mr. E. G. Anderson.

THE ARCO COMPANY
Cleveland, Ohio

Booth No. 5 — The Arcade Building

Exhibit: Arco Save-A-Line—an underground pipe coating —and a complete line of protective coatings, paints, varnishes and enamels for the oil industry.

Representatives: W. E. Paye, D. S. Picard, Grover Thompson, W. A. Bahn.

ARCO EQUIPMENT COMPANY
Byron, Ohio

Booth No. 13 — R. & M. Building

ARMSTRONG MACHINE WORKS
Three Rivers, Michigan

Booth Number 125 — Texas Building

Exhibit: Armstrong Steam Traps; Armstrong Gasoline Traps.

Representatives: Geo. B. Allan, Oklahoma and Texas Representative, O. E. Ulrich, Factory Representative, T. H. Rea, Sales Manager.

ARO EQUIPMENT COMPANY
Bryan, Ohio

Booth No. 13 — Refiners & Marketers Building

ASSOCIATED ALLOY STEEL COMPANY
Cleveland, Ohio

Booth No. 58 — Scientific and Technical

ATLAS SUPPLY
Muskogee, Oklahoma

Block "K"

Exhibit: 1 1500 Watt Kohler Automatic Light and Power

I AM THE SPIRIT OF ELECTRICITY

• I spring to life in whirring dynamoes to work the miracles of man, my master. My tasks are myriad. I am a tireless servant. I light the tiny filaments of a surgeon's lamp or grind a mile length string of steel into the earth on some distant lease. Subservient to man's will, I have lifted the burden of drudgery from the shoulders of humanity. I have widened man's horizon and given greater scope to his inventive genius. I turn the wheels of industry that his economic balance be preserved. I am the torch bearer ot civilization. I am the great emancipator. I am a presage of miracles to come. » » »

The pipe line, refining and producing branches of the oil industry are invited to use the services of our engineers. They are expert in the matter of applying Electric Power to Oil Industry needs.

GULF STATES
UTILITIES COMPANY

General Offices

BEAUMONT, TEXAS LAKE CHARLES, LA.

WHY you'll use BETTIS

APPLICATION of Bettis Drill Stabilizers above the drill bit is fast becoming universal practice in rotary drilling fields.

These Stabilizers, like their worthy companions, Bettis Protectors, are made entirely of specially compounded rubber—so tough in texture, so durable, that they are actually outlasting the drill pipe.

Bettis Stabilizers cushion the drill pipe in open formation, eliminating to a large extent those factors of destruction that prematurely fatigue drill pipe.

Excessive strain is removed from the vital point immediately above the drill because these large protecting cushions keep the drill pipe and drill stem in center, preventing whipping.

Bettis Drill Stabilizers may be slipped over the tool joints or couplings to the desired location on the drill stem or pipe. They hold the pipe in center when fishing. No wall hook is needed. The overshot will always go over the fish and push the Stabilizer ahead without interference.

Extra reamers can be eliminated.

There is no need for more than one drill collar. Twist-offs at the drill collar are practically eliminated. The collar will not corkscrew under heavy drilling.

The tool joints will not wear out, because friction is not imposed upon them.

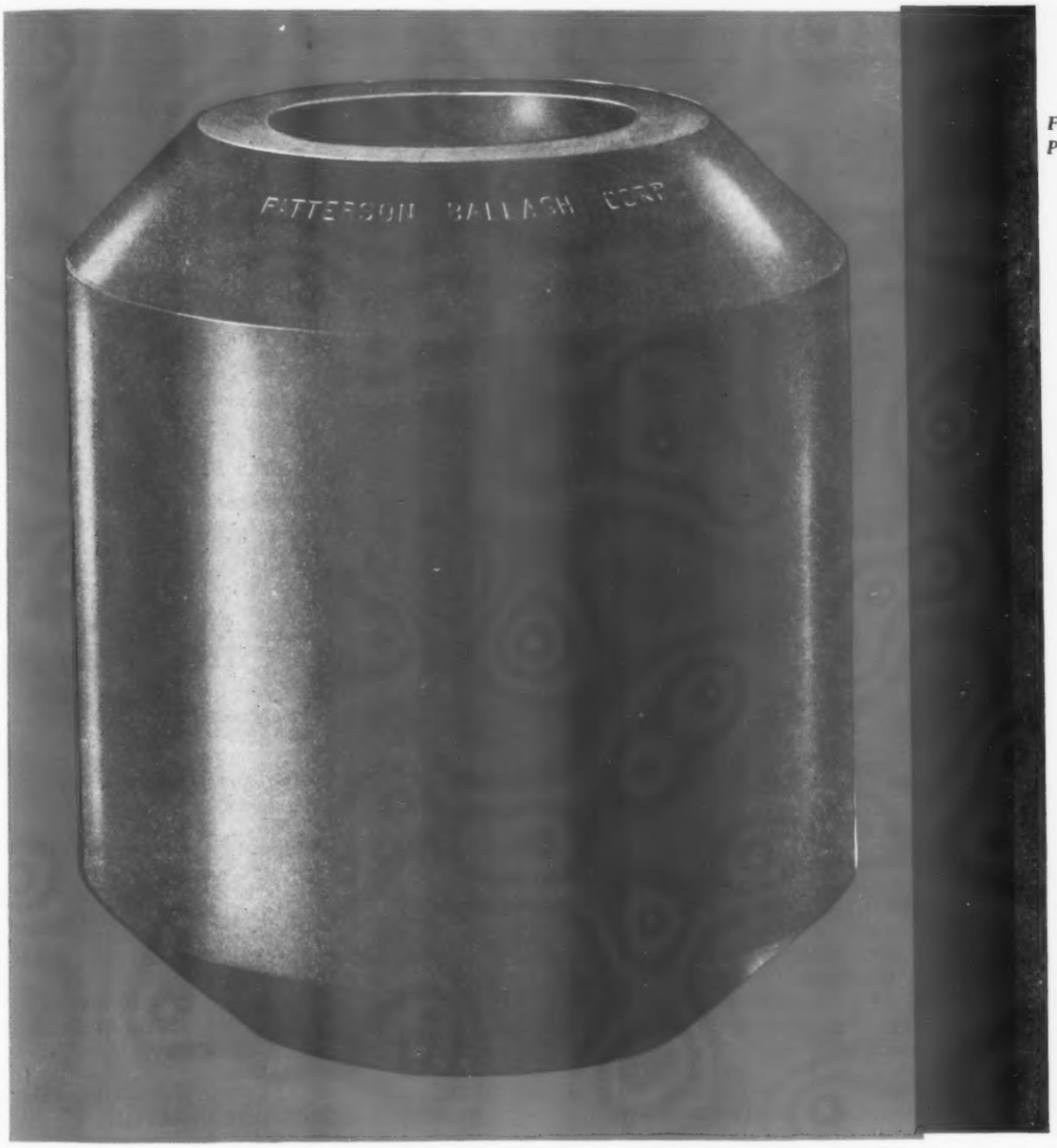
The drill pipe will last much longer, due to reduction in vibration and fatigue.

By keeping the pipe centered and in vertical position, straighter hole is drilled.

Bettis Stabilizers do not interfere with mud circulation because the open area on the outside for the return circulation is several times greater than the area within the drill pipe.

In case of a cave-in the drill pipe and bit can be pulled through the Stabilizers. Being lighter than the mud, the Stabilizers will float to the surface and if by any chance they become lodged in the hole will cause no trouble because no metal is used.

"Best bet yet"



FULLY PATENTED

STABILIZERS

If used in stovepipe casing the Stabilizer will practically eliminate trouble from collapsing or a broken seat.

Under ordinary conditions dropped drill pipe, equipped with Stabilizers, will float to the bottom —avoiding serious trouble.

Bettis Stabilizers on the drill pipe in open formation and Bettis Protectors on the pipe within the casing guarantee 100% protection against excessive friction. They are a necessity in every rotary drilling well. Ask for Catalog.

PATTERSON-BALLAGH CORP.
Insurance Exchange Building, Los Angeles
Texas and Gulf Coast Distributors:
BETTIS SALES CO., 917 Merchants & Mfrs. Bldg., Houston
Oklahoma Distributors:
BAILEY & BECKER COMPANY, 410 Thompson Bldg., Tulsa
New York Office: 39 Cortlandt Street
Carried in stock at Los Angeles, Ventura, Kettleman Hills, Bakersfield, Coalinga and Long Beach, California; Tulsa and Oklahoma City, Oklahoma; Houston, Texas; Hobbs, N. M.; Calgary, Alberta, Canada; New York City.

Plant; 1 2000 Watt Kohler Automatic Light and Power Plant; all enclosed; 1 Union Hot Oil Pump; 1 Weber Engine; display of strong Steam Traps; display Tru-Lay Cable; display Belmont Packing; display Myers Pumps; Powell Valves.

Representatives: J. M. McLain, H. U. Everett, A. D. Larson, J. H. White, S. C. Maples, R. E. Howe.

AUSTIN MACHINERY CORPORATION
Muskegon, Michigan

Lot C.

THE AUTOCAR COMPANY
Ardmore, Pennsylvania

15x70 feet space outside of buildings, near main entrance.

Exhibit: Model CG six-wheel Autocar five-ton truck, developed for oil field work, on which is mounted Mead-Morrison winch, etc. (Specifications enclosed). Cutaway sections of various units of Autocar trucks. Model TBS Autocar, specially constructed for Sperry-Sun Well Surverying Company, on which is mounted a special Braden winch and special equipment for the complete survey of wells.

Representatives: E. D. Sirrine, transportation engineer, Ardmore; C. Eustace Dwyer, assistant sales manager, Ardmore; Frank Pietsch, manager National Accounts Division, Chicago; C. E. Gough, manager Autocar Truck & Service Co., Dallas; H. B. McRae, district sales manager, Oklahoma City.

AXELSON MANUFACTURING COMPANY, LTD.
Booth Nos. 46-59 — California Building

B. & A. SPECIALTY COMPANY
Tulsa, Oklahoma

Booth No. 16 — California Building

BAASH-ROSS TOOL COMPANY
Booth Nos. 41-42 — California Building

BADGETT STEAM LUBRICATOR COMPANY
Chickasaw, Oklahoma

Open Space Lot R

BAILEY-BECKER COMPANY
Tulsa, Oklahoma

Booth Nos. 6-7-8-9 — California Building

BAILEY METER COMPANY
Cleveland, Ohio

Booth No. 57 — Scientific and Technical Building

Exhibit: Bailey Boiler Meter, Electrically Operated Fluid Meter, Mechanically Operated Fluid Meter, Thermo-Hydraulic Feed Water Regulator, Liquid Level Recorder.

Representatives: C. E. Albert, C. M. Kunkel.

BAKER OIL TOOLS, INC.
Huntington Park, California

Booth Nos. 98 and 113

Exhibit: Whirler Shoe, Counterbalance, Blowout Preventor, Baskets, Bailers, Core Barrels, Iron Valves, Wall Hook, Rotary Hose, Rotary Shoes.

BALDWIN-DUCKWORTH CHAIN CORPORATION
Baldwin Division
Worcester, Massachusetts

Booth Nos. 12 and 13 — California Building

Exhibit: Baldwin Deep Well Super Service Oil Well Chains 1030 SS and 1240 SS, also Parts. Baldwin Standard Roller Chains, Block Chains, Steel Replacement Roller Chains, Sprockets.

Representative: George J. Fix.

BARBER-GREENE COMPANY
Aurora, Illinois

Lot O

Exhibit: Pipe Line Special Vertical Boom Ditcher, Light Utility Ditcher, Service Special Ditcher.

Representatives: H. H. Barber, president; W. B. Greene, vice-president; E. H. Cooper, manager Kansas City office; J. M. Burns, ditcher division head.

BARCO MANUFACTURING COMPANY
Chicago, Illinois

Booth No. 8 — Refiners and Marketers Building

Exhibit: Barco Flexible Joints, Barco Lubricated Plug Valves.

Representative: L. E. Livingston.

BARNES MANUFACTURING COMPANY
Mansfield, Ohio

Outside Space

BARNSDALL CORPORATION
Tulsa, Oklahoma

Lot O

BARTON & WARNER
Tulsa, Oklahoma

Booth Nos. 94-95-96 — Oklahoma Building

BASSETT & FAGG
New York City

Lot R

BAUSCH & LOMB OPTICAL COMPANY
Rochester, N. Y.

Booth No. 3 — Scientific and Technical Building

Exhibit: Petrographical Microscopes, Binocular Low Power, Wide Field Microscopes, Abbe Refractometers, Hydrogen-Ion Colorimeters, Electric Centrifuges, Photomicrographic Equipment, Biological Microscopes, Wide Field Tubes, Euscopes, Stereo-Prism Binoculars, Projection Equipment, Magnifiers.

Representatives: Mr. I. L. Nixon, Industrial sales manager; Mr. C. C. Nitchie, Mr. H. M. Stevens, Mr. H. L. Shippy, Rochester office; Mr. H. M. Davies, Mr. F. C. Low, Chicago office.

L. M. BEALL CONSTRUCTION COMPANY
Tulsa, Oklahoma

Outside — Lot 0

Exhibit: Burners, Hollow Furnace Wall, Beall Furnace Construction.

Representative: Lee M. Beall.

BEALL SELF SUPPORTED HOLLOW FURNACE WALL
Tulsa, Oklahoma

Open Space, Lot "O", 15 x 30 ft.

BEAUMONT IRON WORKS COMPANY
Booth Nos. 46-59 — California Building

BEAVER DIE STOCKS
Warren, Ohio

Booth No. 84 — Oklahoma Building

BENDIX SERVICE CORPORATION
South Bend, Indiana

Open Space, Lot F

BENJAMIN ELECTRIC MFG. COMPANY
Des Plaines, Illinois

Booth Nos. 43 and 44 — Refinery and Marketers Building

Exhibit: Duo-Service Floodlight Unit; Heavy Duty Gas and Vapor-Proof Lighting Equipment; "1500 Series" Lighting Equipment; Pit Lighting Unit for greasing pits, hydraulic lifts, washing racks, etc.; Benjamin-Starrett Panelboards for lighting and power; Super Sensitive Relay for difficult signaling and problems connected with pipe line telephone and other audible signaling.

Representatives: C. B. Harlow, O. C. Westberg, H. B. Heitzman and F. A. Callahan.

BETHLEHEM STEEL COMPANY
Bethlehem, Pennsylvania

Booth Nos. 130-131-132 and 133 — Texas Building

Exhibit: We will have on display an exhibit of Bethlehem Pipe in various sizes together with photographic transparencies showing views in our plant. In addition to the pipe exhibit we will have an exhibit of alloy steels, corrosion resisting steels, and tool steels; special forgings corrugated galvanized sheets; bolts and nuts; oil burning equipment; and illustrations of forged steel drums for oil refineries.

Representatives: Charles Schenck, production engineer;

Wm. H. Hart, manager of sales, pipe and tubular products; E. J. Seaman, sales department; J. Tierney, sales department; W. C. Chapman, manager of sales, St. Louis office; O. W. Klinger, sales department.

BETTIS SALES COMPANY
Houston, Texas

Booth Nos. 6-7-8-9 — California Building

BIG FOUR FOUNDRY COMPANY
Tulsa, Okla.

10x12 feet, Outside Space.

BIG THREE WELDING & EQUIPMENT COMPANY
Ft. Worth, Tulsa, Houston and Oklahoma City

Exhibit: Samples of Latest Type Method of Welding Pipe Lines.

Representatives: C. K. Rickel, vice-president; H. A. Webb, branch manager.

BLACK SIVALLS BRYSON INC. & AMERICAN TANK & EQUIPMENT CORPORATION
Bartlesville, Oklahoma

Booth Nos. 10-11 — California Building

Exhibit: B. S. & B. Perfection Vapor Pressure Bolted Steel Tanks; B. S. & B. A. P. I. Bolted Steel Tanks; Improved American Oil and Gas Separators; B. S. & B. Safety Walkway Stairways; Miscellaneous Refinery and Gasoline Plant Equipment.

Repreesntatives: A. H. Black, J. A. Sivalls, Glenn Skinner, G. Raymond, J. A. Gruff, A. J. Edwards, M. B. Johnson, H. R. Parht.

BLACKOR COMPANY
Los Angeles, California

Booth Nos. 6-7-8-9 — California Building

BLAW-KNOX COMPANY
Pittsburgh, Pennsylvania

Booth No. 5 — Refiners and Marketers Building

Exhibit: Full size section of Tracyfier in operation in a section of a 42 inch boiler drum. Complete cycle of operation showing complete separation of a liquid from a gas. Blaw-Knox Electroforged one-piece Steel Grating and open flowing.

Representative: G. M. Kirkpatrick.

THE BOARDMAN COMPANY
Oklahoma City, Oklahoma

Outside Space with Sullivan Machinery Company

BOE MANUFACTURING COMPANY
Minneapolis, Minnesota

Booth Nos. 48-49 — R. and M. Building

THE BORDEN COMPANY
Warren, Ohio

Booth No. 84 — Oklahoma Building

Exhibit: Die Stocks; Pipe Cutters; Power Units; Grooving Tools. Several new tools and power units will be on display.

Representatives: C. W. Smith, G. D. Clewell.

ROBERT BOSCH MAGNETO COMPANY, INC.
Long Island City, New York

Booth No. 50 — Oklahoma Building

Exhibit: Magnetos, Spark Plugs, Voltage Regulated Generators and other electrical equipment for gas and oil engines. Fuel Pumps and Injection Nozzles for Solid Injection Diesel type engines. Full lines of products will be shown, suitable for engines from the smallest to largest power plants. A special feature of the exhibit will be a demonstration of a Fuel Pump and Injector System for Diesel type engines in actual operation in a transparent glass cylinder.

Representatives: Lee C. Carlton, Chicago branch manager; Carl Behn Jr., Detroit branch manager; F. Oberle, sales engineer; M. S. Linton, sales representative.

BOSTON WOVEN HOSE & RUBBER COMPANY
Boston, Massachusetts

Open Space, Lot SE ¼, Block K

BOTFIELD REFRACTORIES COMPANY
Philadelphia, Pennsylvania

Booth No. 57 — Refiners and Marketers Building

Exhibit: Adamant Fire Brick Cement; Adachrome Plastic Super-Cement; Adachrome Fines and Aggregate; Adapatch; The Adamant Gun.

Representatives: H. A. Engstrom, Alvin Crais.

THE BOVAIRD SUPPLY COMPANY
Tulsa, Oklahoma

Booth Nos. 26-27 — Texas Building

Exhibit: Bovaird Split Slip-Type Tubing Elevator.

Representatives: W. J. Bovaird, chairman of board, Independence, Kansas; W. M. Bovaird, president, Tulsa, Oklahoma; F. D. Bovaird, vice-president, Tulsa, Oklahoma; D. D. Bovaird, treasurer, Tulsa, Oklahoma; R. M. McMahan, secretary, Tulsa, Oklahoma; S. J. Raphel, sales manager, Tulsa, Oklahoma; D. C. Kennedy, manager, Borger, Texas; R. O. Donovan, manager, Hugoton, Kansas; C. V. Dennis, manager, Independence, Kansas; C. W. McGinnis, superintendent, Independence, Kansas; T. C. Beardmore, manager, McPherson, Kansas; F. J. Robbins, manager, Oklahoma City, Oklahoma; W. H. Sherin, salesman, Oklahoma City, Oklahoma; W. H. Turnage, salesman, Oklahoma City, Oklahoma; J. B. Hubbard, manager, Sapulpa, Oklahoma; W. D. Williamson, manager, Seminole, Oklahoma; C. A. Black, manager, Wichita, Kansas.

BRADEN STEEL CORPORATION
Tulsa, Oklahoma

Booth No. 35 — Oklahoma Building

Exhibit: Braden Sectional All-Steel Buildings for the oil field and general industrial uses.

Representatives: L. E. Bales (Dallas Representative); R. W. Mauthe, Tulsa office; Duke Merrill, Tulsa office; A. L. Day, Tulsa office, H. V. Carter, Tulsa office.

BRADEN STEEL & WINCH COMPANY
Tulsa, Oklahoma

Booth H — Outside Exhibit

Exhibit: Braden Big Bertha, Heavy Duty Oil Field Hoist, Braden All Steel Irreversible Horizontal Winches, for Trucks.

Representatives: Mr. R. H. Bartlett, Mr. W. R. Braden, Mr. T. J. Schuetz, Mr. Jack Booth, Mr. B. S. Scott, Mr. H. R. Hurt.

BRISTOL COMPANY
St. Louis, Missouri

Booth Nos. 1-2 — S. & T. Building

BRODERICK & BASCOM ROPE COMPANY
St. Louis, Missouri

Booth Nos. 83-128 (Adjacent) — Oklahoma Building

Exhibit: Revolving exhibit showing various kinds of wire rope. Samples of wire rope. Other items of interest to users of wire rope.

Representatives: M. R. Gayle, Mid-Continent Sales Manager who will be in charge; J. K. Broderic, president; Fred Zimmerman, sales manager; E. M. Stephanus, distribution manager; T. E. Alexander, Oklahoma representative; J. M. Crowe, Kansas representative; M. R. Henderson, Houston branch manager; W. S. Hovis, West Texas representative; F. C. Thacker, West Virginia representative; C. D. Foss, California representative:

RALPH N. BRODIE COMPANY
Oakland, California

Booth No. 42 — Refiners and Marketers Building

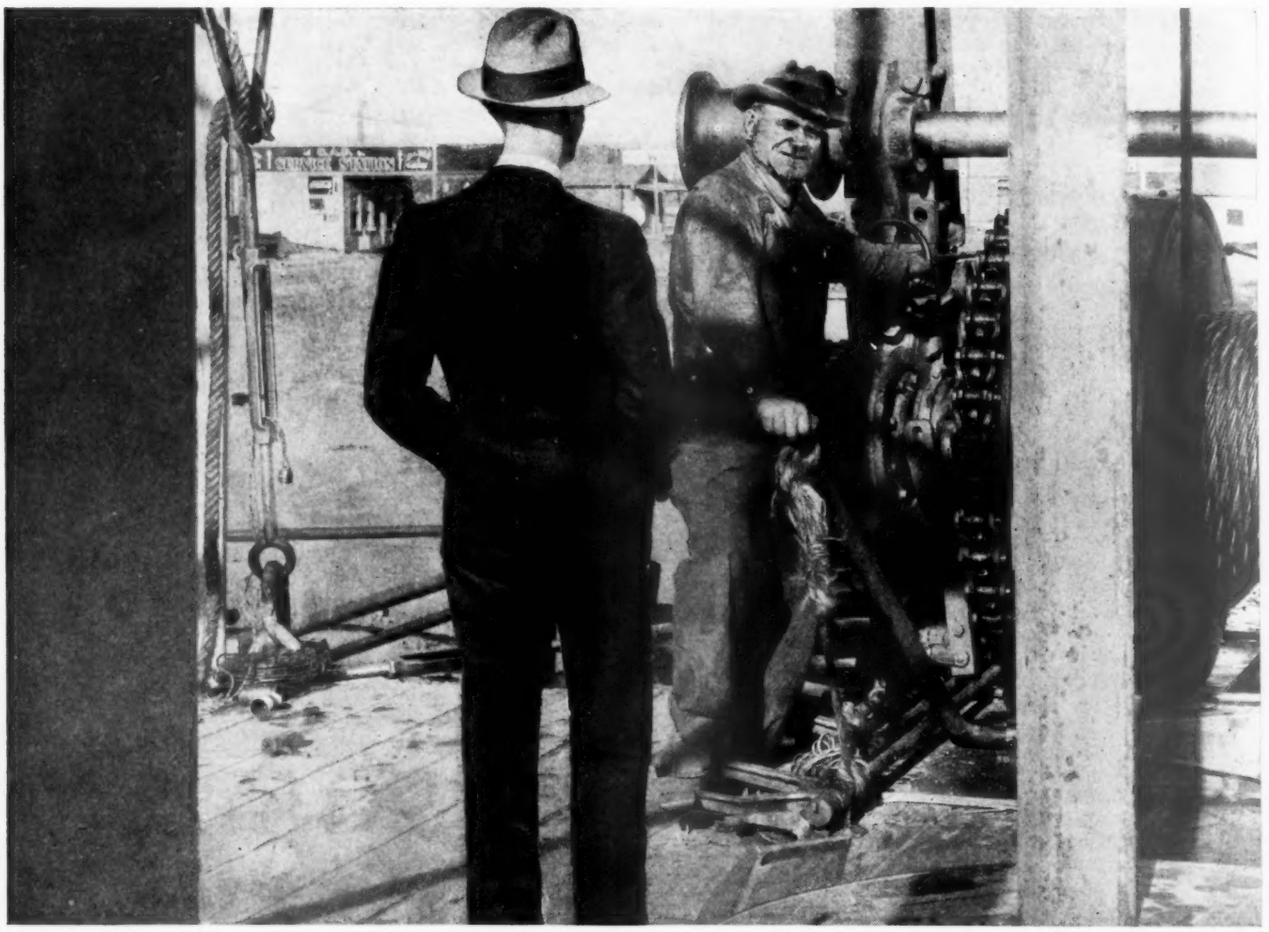
Exhibit: Displacement Meters, Strainers, Air Release-Valves, Vertical Counters.

Represenetatives: Walter W. Brown, Jack Walton, William M. Rankin, J. H. Dunn, A. J. Granburg, Ralph N. Brodie.

BROWN INSTRUMENT COMPANY
Philadelphia, Pennsylvania

Booth Nos. 39-40 — S. & T. Building

THEY TALKED DIFF



but THEY SMILED

"That's good chain", the driller said.

"Yes", the engineer answered, "It's a well-balanced design."

"The pins wear."

"They are the result of many thousands of experiments in the selection of alloys and heat treatment."

"They don't snap off?"

"No, the scientific heat treatment builds up strength in the metal beneath the surface."

"The chain doesn't stretch?"

"No, the alloy steel side bars are also of a special steel, heat-treated so that the chain maintains uniform pitch."

"It doesn't rattle apart?"

"No, the close tolerances make it virtually impossible for wear to start."

"The side bars don't back off the bushings?"

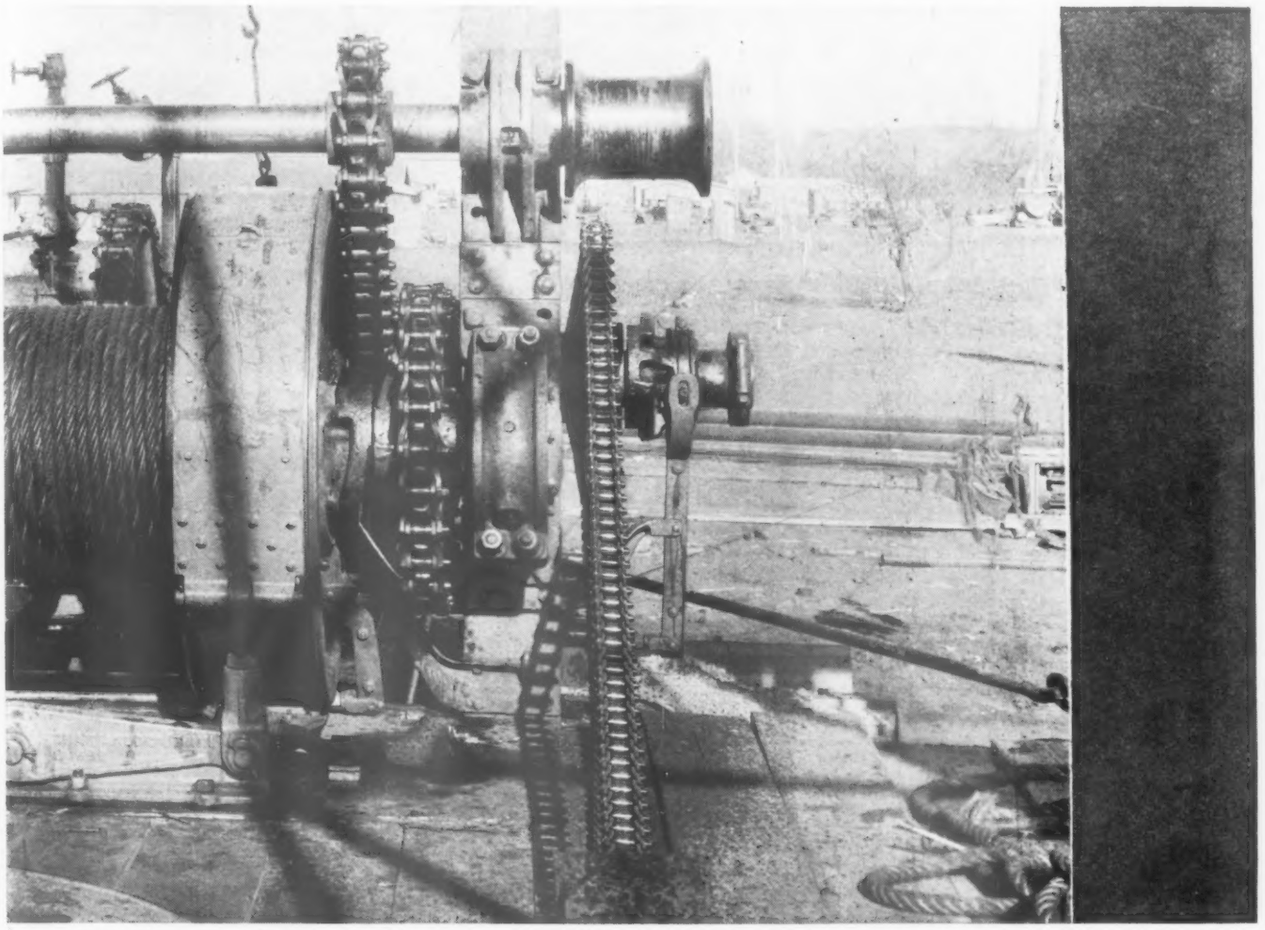
"No, the accurate force-fit of the parts, assembled by hydraulic pressure into the unit link holds the chain intact."

"It doesn't pound to pieces?"

"No, the weight is scientifically determined in

REX Reg. U.S. Pat. Off. DEEPWELL

ERENT LANGUAGES



THE SAME SMILE

relation to the operating speed."

"It runs smooth?"

"Pitch and working tolerances between the ground pins, the ground bushings and the seamless rollers are closer than A. S. M. E. standards."

"One of the chains is just like the next."

"It is made by precision methods, by modern machinery using highly specialized dies and automatic machinery."

"It fits the sprockets?"

"Every strand is matched to A. P. I. standards and carefully inspected so that those standards are maintained."

"It's engineered?"

"Yes, it's engineered."

"It's the greatest chain that ever hit the oil fields."

"Yes, it is the greatest chain that ever hit the oil fields."

CHAIN BELT COMPANY
739 Park Street, Milwaukee, Wis.
Cable Address: BELTCHAIN
1310 Second Nat'l Bank Bldg., Houston, Tex. 1414 Santa Fe Ave., Los Angeles, Calif.

Stocks in all Active Oil Fields

CHABELCO

BUCKEYE IRON & BRASS WORKS
Dayton, Ohio

Booth No. 22 — California Building

Exhibit: Fill Boxes, Vacuum Breakers, Tank Bushings, Extension Bushings, F illPipe Caps, Gasoline Drain Cock, Foot Valve Extractor Fitting, Brass Hose Fittings, Swing Joints, Fill Box Manhole, Dry Hose Nozzles, Wet Hose Nozzles, Radiator Filling Nozzles, Gasoline Strainers, Air Regulating Valves, Air Safety Valves, Angle Check Valves, Foot Valves, Hose Nozzle Valves, Globe Valves, Hose Check Valves, Needle Valves, Rising Stem Gate Valves, Pressure Relief Valves, Swing Gate Valves, Swing Check Valves, Truck Loading Valves, Vent Storage Tank Valves, Shut-off Valves and Vertical Check Valves.

Representatives: Howard W. Webb, George R. Bardsley.

BUCKEYE TRACTION DITCHER COMPANY
Findlay, Ohio

Lot H

THE BUDA COMPANY
Harvey, Illinois

Booth Nos. 67-68-69-70 — Oklahoma Building

Exhibit: Model H-199—4-cylinder, 3¾x4½ gasoline engine, Model FR Power Unit—4-cylinder, 5½x6½ gasoline engine with sheet metal hood mounted on cast iron base. Model JH-4 Power Unit—4-cylinder, 6x4⅛ gasoline engine with sheet metal hood mounted on cast iron base. Diesel Model D4-23—4-cylinder, 6x8, 92 H. P. Diesel Model DM6-30—6-cylinder, 6½x8¾, 180 H. P.

Representatives: Mr. H. M. Sloan, vice president; Mr. R. K. Mangan, sales manager, Industrial division—in charge of exhibit. Mr. A. F. Ochtman, sales engineer; Mr. L. F. Shoemaker, sales engineer.

BUFFALO METER COMPANY
Buffalo, New York

Lot Q

BULLARD-DAVIS, INC.
Booth No. 87 — Texas Building

BURDETT OXYGEN COMPANY
Chicago, Illinois

Booth No. 1 — California Building

THE BURDICK ENAMEL SIGN COMPANY
Chicago, Illinois

Booth No. 37 — M. & R. Building

BURT CORPORATION
Tulsa, Oklahoma

Booth No. 4-5 — Texas Building

BUREAU OF MINES
Bartlesville, Oklahoma

Booth Nos. 50-51-52-53 — S. & T. Building

BUREAU OF STANDARDS
Booth No. 56 — S. & T. Building

BYRON JACKSON COMPANY
Los Angeles, California

Private tent located between the Scientific and Technical Building and the Refiners and Marketers Building

Exhibit: Triplex Casing Hook, Tongs (Wilson and Dunn Types), Elevators (Wilson and Dunn Types), Slip Grip Side Door Elevator*, Disc Bits*, Sure-stop Tubing Catcher*, Tubing Bleeder, Tool Joints, Safety Joints, Anti-Friction Tool Joints, Subs and Couplings, Deep Hole Drag Bit and Reamer, Perfection Underreamer, Weldless Elevator Links, Tool Brace, Slush Pump Piston. *To be moving displays.

Representatives: A. E. Raine, Mid-Continent manager, Mid-Continent representatives: R. T. Todd, C. F. Vincent, Marshall Moore, R. B. Protzman, L. M. Deutsch, D. O. Pugh and Van Nelson, Robert M. Cook, in charge of sales of California; Herb E. Grau, chief engineer; Theo. M. Martin, advertising manager.

CALIFORNIA OIL WORLD
Los Angeles, California

Outside Space

THE CALIFORNIA MACHINERY & SUPPLY CO.
Booth No. 60 — Texas Building

CALIFORNIA TALC COMPANY
Los Angeles, California

Outside Space

Exhibit: Aquagel.

Representatives: Geo. L. Ratcliffe, president and general manager; Harold H. Farnham, chemical engineer; Geo. H. Parsons, salesman; Dee A. Sikes, salesman.

THE CALORIZING COMPANY
Pittsburgh, Pennsylvania

Booth Nos. 57-58 — California Building

Exhibit: Calite Tube Supporters, Calorized Steel Cracking Still Tubes, Miscellaneous Chrome-Nickel Alloy Castings, Calorized Steel Corrosion Resisting Pipe Fittings.

Representatives: R. S. Brown, N. E. Ward.

CAMERON TOOL & SUPPLY COMPANY
Cameron, West Virginia

Booth No. 58 — Oklahoma Building

Exhibit: Monroe Spiral Torpedo Drilling Bit; Rope Grabs, and Spears; Slip Rocket; Safety Casing Drive Ring; Akins Underdriller Bit.

Representatives: F. B. Dillaman, L. D. Rees.

C. F. CAMP COMPANY
Tulsa, Oklahoma

Booth Nos. 87-88-123 and 124 — Oklahoma Building

Exhibit: Waukesha Gas Engines; Waukesha Diesel Engines; Waukesha Pipe Line Engine; Waukesha Standby Generator Unit, (designed especially for pipe line station equipment).

Representatives: Gordon Thomason, sales engineer; Ray Koster, sales representative; W. A. Clements, sales representative; Howard Gillispie, sales representative; Clark Jenkins, sales representative; H. B. Owens, sales representative; C. F. Camp, president; E. E. Robbins, vice-president; H. O. Bird, treasurer.

CARSON BROTHERS
Joplin, Missouri

Lot H

CATERPILLAR TRACTOR COMPANY
Peoria, Illinois and San Leandro, California

Open Space Lot, Block "F", 30 x 30

CHAMBER OF COMMBRCE
Tulsa, Oklahoma

Booth No. 14 — S. and T. Building

CHAIN BELT COMPANY
Milwaukee, Wisconsin

Booth Nos 8-9 — Texas Building

Exhibit: Rex Deepwell Chabelco Chain; Water Pumps Concrete Mixers.

CHAMPION & BARBER COMPANY
Los Angeles, California

Booth Nos. 6-7-8-9 — California Building

THE CHAPLIN-FULTON MFG. COMPANY
Pittsburgh, Pennsylvania

Booth No. 62 — S. and T. Building

Exhibit: "Fulton" Pressure Regulators for oil, gas, air, etc., Vigilant Liquid Level Controllers, remote control type for continuous or intermittent inlet or outlet flow. Fulton Lever Safety Valve, (new this year), Motor Valves, Duplex Sensitive Gas Governors, etc.

Representatives: Thos. H. Thorn, assistant engineer; F. N. Goedert.

CHAPMAN VALVE MFG. COMPANY
Tulsa, Oklahoma

Booth Nos. 15-16 — R. & M. Building

C. H. & E. MANUFACTURING COMPANY
Milwaukee, Wisconsin

30 x 30, Lot "C", Outside

CHICAGO BRIDGE & IRON WORKS
Chicago, Illinois

Booth Nos. 80-81 Texas Building

Exhibit: Model at Booth. The Hortonspheroid for pressure storage, Pictorial Display at Booth. Oil storage Tanks, Wiggins Floating Roofs, Wiggins Breather Roofs, Refinery Plate Work. At A. S. M. E. Automatic Oil Pump Station, Steel Tank, 20 ft. Wiggins Floating Roof.

Representatives: D. A. Leach, H. B. Murphy, C. L. Day, Dean Miller, George T. Horton.

CHICAGO PNEUMATIC TOOL COMPANY
New York City, N. Y.

Booth No. 71 Texas Building

Exhibit: CP "Tucone" Rock Bit.

Representatives: A. E. Goodhue, A. H. Collins, W. J. Nutto, E. E. Deacon, C. E. Downie, A. R. Hartley, H. W. Buker.

CHRISTIE BURNER COMPANY
Tulsa, Oklahoma

Booth No. 4 Arcade Building

Exhibit: Christie Low Pressure Gas Burners, Pirdun Oil Burners, Air-Circo Heaters.

Representatives: H. W. Christie, manager; Clark B. Bergseth; V. S. Christie.

CITIES SERVICE COMPANY
Tulsa, Oklahoma

Booth No. 38 R. and M. Building

CLARK BROTHERS COMPANY
Olean, New York

Open Air Lot A

Exhibit: Clark 8 Cylinder Vertical 4-Cycle Engine with Dynamometer, Clark 60 H.P. 2-Cycle Compressor, Clark "Honed" Cylinders, Clark 85 H.P. Vertical Generator Unit, Clark 75 H.P. Vertical Pumping Engine.

Representatives: C. P. Clark, vice-president; J. B. O'Connor, general sales manager; W. G. Cummings, Mid-Continent manager; D. K. Hutchcraft, sales engineer, Oklahoma; P. D. Baker, engineer; G. W. Probst, service manager; E. G. Orr, serviceman.

CLARK BROTHERS
Tulsa, Oklahoma

Space 30 x 80 ft in Lot A.

CLARK MACHINE COMPANY
Wichita Falls, Texas

Outside space

Exhibit: Wichita Falls Spudder.

Representatives: W. H. Ealy, manager; F. B. Sharp, sales manager.

CLIFFORD-JACOBS FORGING COMPANY
Champaign, Illinois

Booth No. 34 California Building

Exhibit: Drop Forgings for the Industry.

Representatives: Geo. T. Stevenson, manufacturing engineer; J. K. Rodgers, director of production; Frank W. Graves, St. Louis representative.

CLIMAX ENGINEERING COMPANY
Clinton, Iowa

Booth Nos. 76-77-135 Oklahoma Building

COFFING HOIST COMPANY
Danville, Illinois

Booth No. 2 California Building

Exhibit: Four different sized Hoists ranging from three-fourth ton to six ton Push Jack, capacity eight tons.

Representatives: Fred W. Coffing, president; J. C. Owen, salesman; M. Crowder, salesman.

COLONA MANUFACTURING COMPANY
Division Pittsburgh Screw and Bolt Corporation
Pittsburgh, Pennsylvania

Booth Nos. 1-2 Texas Building

Exhibit: Pipe Thread Protectors, Sucker Rod Protectors, Protectors for Victaulic Pipe, Tool Joint Protectors.

Repreesentatives: J. P. Hoelzel, H. W. Schuetz, R. W. Dierker, George Cornelius.

STATE OF COLORADO
Booth No. 54 S. & T. Building

COLUMBIAN STEEL TANK COMPANY
Kansas City, Missouri

A space 20x30 feet west end of Block M.

Exhibit: Sectional view of 100-barrel API bolted tank with Leakproof nuts and distinctive Columbian deck and bottom. New 1500-gallon frameless semi-trailer truck tank built for Skelly Oil Company, showing Columbian low mounting feature made possible by elimination of trailer. Also to show airplane refueler, or another truck tank, not just certain at this writing. Also to show full line of marketing accessories, minor products, etc.

Representatives: Ward M. Gadberry, sales manager; E. E. Wild, sales promotion manager; A. C. Harrington, salesman; A. J. McElvain, salesman.

COMBUSTION ENGINEERING CORPORATION
New York City, N. Y.

Space 10x30 Lot D

COMPOSITE CATALOGUE OF OILFIELD AND PIPE LINE EQUIPMENT
Houston, Texas

18x18 feet outside.

Repreesentativees: R. L. Dudley, A. L. Burns, S. W. Robinson, J. F. Carter, Jr., Grady Triplett, George Reid, Floyd Swindell, J. D. Isaacks.

COMPOSITE CATALOGUE OF OIL MARKETING EQUIPMENT
Houston, Texas

18x18 feet Outside.

Representatives: R. L. Dudley, A. L. Burns, S. W. Robinson, J. F. Carter, Jr., Grady Triplett, George Reid, Floyd Swindell, J. D. Isaacks.

COMPOSITE CATALOGUE OF REFINING AND NATURAL GASOLINE PLANT EQUIPMENT
Houston, Texas

18x18 feet outside.

Representatives: R. L. Dudley, A. L. Burns, S. W. Robinson, J. F. Carter, Jr., Grady Triplett, George Reid, Floyd Swindell, J. D. Isaacks.

CONSISTOMETER CORPORATION
Chicago, Illinois

Booth No. 31 Scientific and Technical Building

Exhibit: Consistometers, a mechanical device for testing the qualities of lubricating oil, such as its coefficient or friction, its fluidity, its tenacity and its shear resistance.

Representatives: Elton S. Stephens, vice president and chief engineer, the inventor of the Consistometer, Ketchum Hotel; Paul W. Petersen, president, Ketchum Hotel.

CONTINENTAL EQUIPMENT CO., INC.
Los Angeles, Calif.

30x40 Open Space Lot, Block L.

CONTINENTAL SUPPLY COMPANY
St. Louis, Missouri

Outside Space

C. LEE COOK MANUFACTURING CO.
Louisville, Kentucky

Booth No. 45 California Building

Exhibit: Cook's Graphitic Iron; Full floating Metallic Packings; Various types of Cook's Graphitic Iron Piston Rings for oil field service.

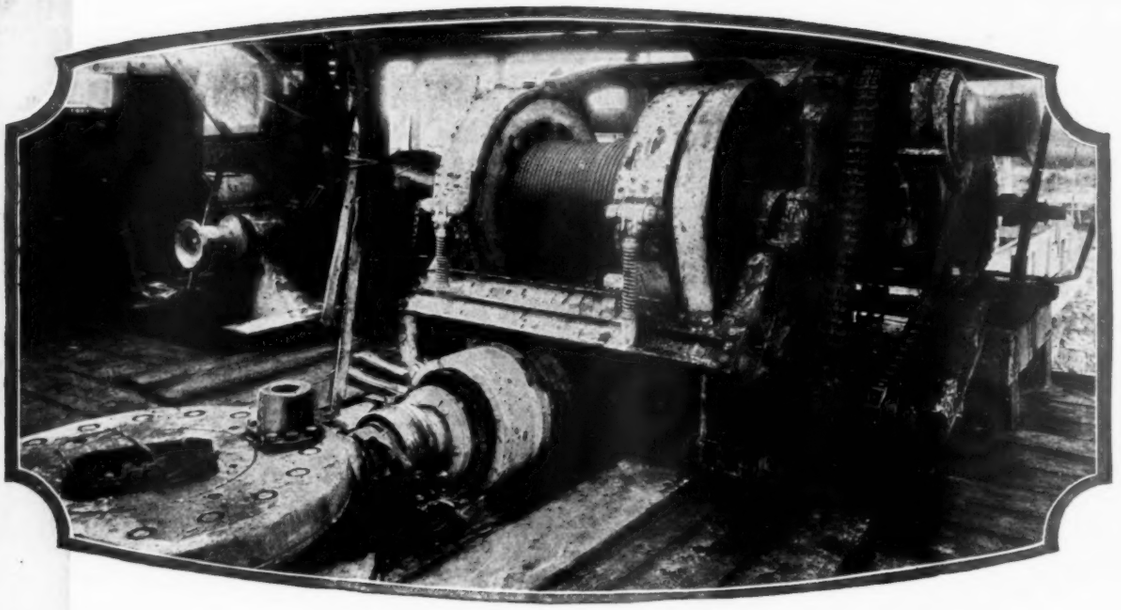
Representatives: F. Black, W. Woobank, Robert E. Kirn.

THE COOPER-BESSEMER CORPORATION
Mount Vernon, Ohio

Separate Building

Exhibit: One Vertical Gas Engine, size 11½x14, 135 H. P., 3-cylinder, One Type GAG Pumping and Drilling Engine, 30 H. P., One Pumping and Drilling Engine Clutch, One Reverse Clutch, One New Type Cooper-Bessemer Compressor Cylinder.

Representatives: B. L. Potter and T. F. Hudgins.



Sheldon-Burden Type H Rotary Drilling Machine

Type H Machine drilling in Louisiana using gasoline engines for power. Note reverse gear to left of machine and the chain drive to the bailing reel which is mounted back of the draw-works.

A GEAR-DRIVEN deep well rotary drilling machine with principal parts mounted on one substantial steel base to provide quick and easy moving and rigging up. Rotary table, draw-works and steam engine or electric motor are easily removable from base and transportated as separate units when desired.

Special high speed steam engine or electric motor and gear box are mounted back of draw-works on the steel base of the machine when steam or electric power is used. When gasoline or Diesel engines are used, the reverse gear is mounted in the corner of the derrick and the chain from it is connected to the rear shaft of the machine. The engines (and double hook-up if desired) are placed on the ground or on a platform along side of the derrick.

The rotary table is shaft driven and controlled by a friction clutch which can be set to slip before the pipe twists off. The friction clutch can be instantaneously engaged or disengaged at any shaft speed, thus making for ease of operation and safety.

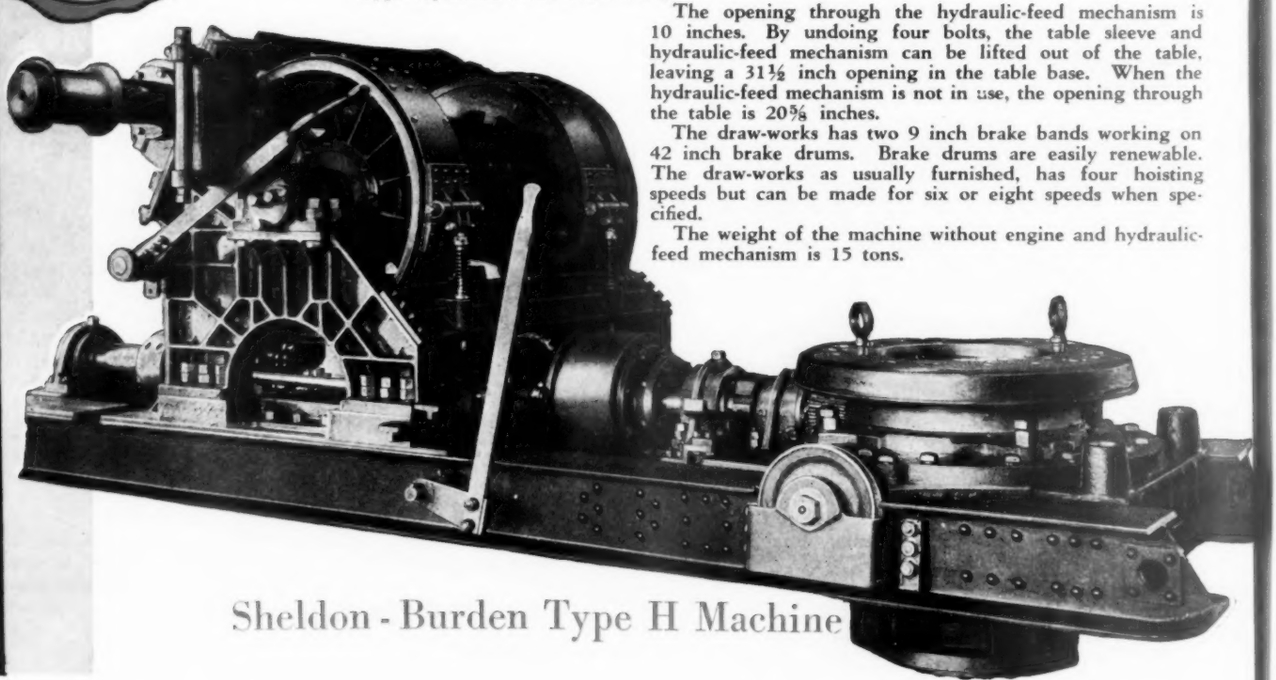
The shaft drive to the table eliminates the usual chain across the derrick floor and permits a wide range of table speeds from the slowest up to 250 r.p.m.

The rotary table may be used as a regular rotary table or with the Sheldon-Burden Type Hydraulic-Feed Mechanism.

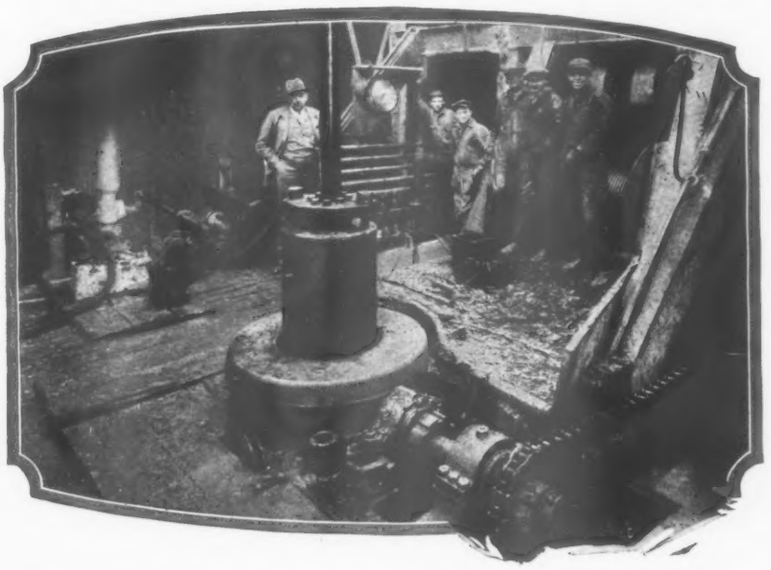
The opening through the hydraulic-feed mechanism is 10 inches. By undoing four bolts, the table sleeve and hydraulic-feed mechanism can be lifted out of the table, leaving a 31½ inch opening in the table base. When the hydraulic-feed mechanism is not in use, the opening through the table is 20¾ inches.

The draw-works has two 9 inch brake bands working on 42 inch brake drums. Brake drums are easily renewable. The draw-works as usually furnished, has four hoisting speeds but can be made for six or eight speeds when specified.

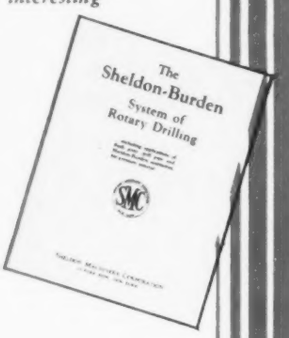
The weight of the machine without engine and hydraulic-feed mechanism is 15 tons.



Sheldon - Burden Type H Machine



Drilling in Canada at depths of over 5000 feet with rock bits in hard lime. Gas pressures up to 2500 lbs. were encountered. Straight holes were drilled where other equipment was unable to complete the wells due to crooked holes, and frequent sticking of the pipe from settlings.

Write for this interesting Book on Rotary Drilling

Sheldon-Burden Type HR Rotary Table

for use with any regular type draw-works and engine

TYPE HR Rotary Table is designed for use with any of the regular type rotary rigs. This permits you to get many of the advantages of the hydraulic-feed mechanism while still using the old type equipment. Some of the many advantages of the Sheldon-Burden Type Hydraulic-Feed Mechanism are:

(1) Drills straighter holes more easily.

(2) Can drill upwards through cavings.

(3) Can press downwards on the bit to make up for lack of pipe weight.

(4) Increases footage obtained from various type bits by keeping accurate and proper bit pressure.

(5) Can be used as 100-ton capacity hydraulic jack when working stuck pipe.

(6) Indicates immediately when passing from soft to hard formation or vice-versa.

(7) Is a super-sensitive and accurate weight indicator.

(8) It can keep pipe moving while making connections or in case of machinery break-down.

(9) Feeds and rotates drill pipe while working against well pressure.

(10) Micrometer feed of hydraulic-feed mechanism produces better cores with less shattering or burning.

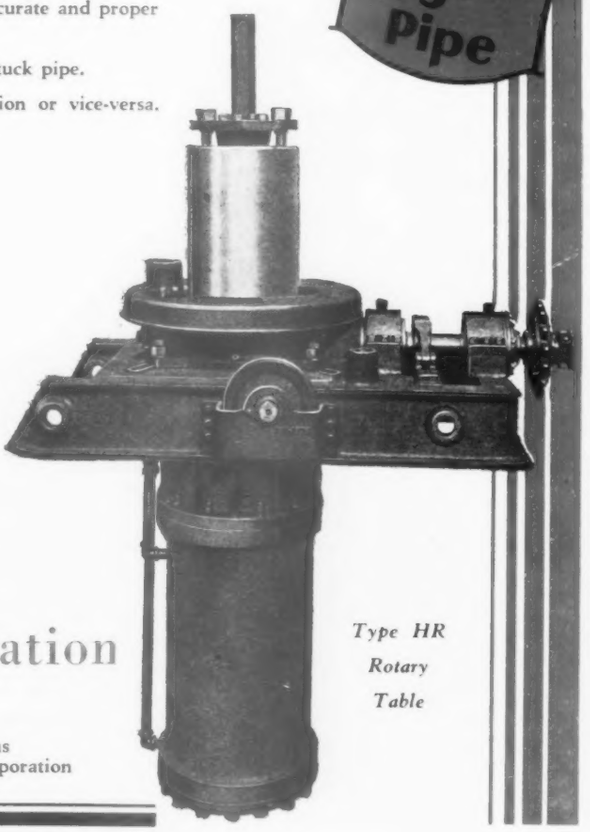
(11) Accurate feed of drill pipe assured regardless of depths and weight of pipe.

(12) Eliminates all rotating load on swivel bearing while drilling.

(13) Increases efficiency of the driller by giving accurate feed control without his holding the brake lever for long drilling periods.

(14) Permits safe snubbing of pipe out of hole against high well pressures.

Drill with Flush-Joint Pipe



Type HR Rotary Table

Sheldon Machinery Corporation

15 Park Row, New York

Branch Office: 953 M and M Building, Houston, Texas
Distributors: Oil Well Supply Company, Lucey Products Corporation

FRED E. COOPER

Open Space Lot "B"—19x40 feet.

CORNING GLASS WORKS
Corning, New York

Booth Nos. 8-9 Scientific and Technical Building

CRANE COMPANY
Chicago, Illinois

Outside Space.

CREPIN & DOUMIN
London, England

Booth No. 22 R. & M. Building

CROOKED HOLE TOOLS COMPANY
Tulsa, Oklahoma

Booth No. 48 S. & T. Building

CROSBY STEAM GAGE & VALVE COMPANY
Boston, Massachusetts

Booth Nos. 39-40-41-42 Scientific and Technical Building

CROUSE-HINDS COMPANY
Syracuse, New York

Booth Nos. 28-29 California Building

DAVIS BORING TOOL COMPANY
St. Louis, Missouri

Booth No. 99 Oklahoma Building

G. M. DAVIS REG. COMPANY
Chicago Illinois

Booth Nos. 39-40-41-42 Scientific and Technical Building

J. E. DAYTON COMPANY
Williamspore, Iowa

Booth No. 87 Texas Building

DEARBORN CHEMICAL COMPANY
Kansas City, Missouri

Booth No. 105 Texas Building

DE WALT PRODUCTS CORPORATION
Lancaster, Pennsylvania

Block F.

Exhibit: Electric Sawing Equipment for Wood, Stone, or Metal.

GLEN DIAL, INC.
Tulsa, Oklahoma

Space E

Exhibit: Dodge Brothers Three Ton Heavy Service Truck, with Standard Steel 1250 gallon capacity gasoline tank. Dodge Brothers 1½ Ton Service Truck, with Shrader Portable Arc Welder (discription attached). Dodge Brothers Two Ton Heavy Duty Oil Field Truck, with Braden irreversible steel winch—Reedy Two Ton Pole Trailer—Safety Extension trailer light.

Representatives: Glen Dial, Tulsa; P. D. Dimmitt, Tulsa; J. C. Webb, Tulsa; J. H. McGilless, Tulsa; L. A. Millard, Tulsa; John H. Mack, (Dodge Brothers), Detroit; T. H. Wade, (Dodge Brothers), Detroit; N. W. Siedel, (Dodge Brothers), Kansas City; O. J. Paul, (Dodge Brothers), Oklahoma City; F. A. Smith (Dodge Brothers), Oklahoma City.

THE DIAMOND CHAIN & MANUFACTURING CO.
Indianapolis, Indiana

Booth Nos. 8-9 Oklahoma Building

JOSEPH DIXON CRUCIBLE COMPANY
Jersey City, New Jersey

Booth No. 97 Oklahoma Building

Exhibit: Dixon's Standard Ticonderoga Flake Graphite, Dixon's Graphite Seal (insoluble in petroleum products, used for making all kinds of joint and flange connections), Dixon's Graphite Pipe Joint Compound, Dixon's Industrial Paints, Dixon's Graphite Greases (for all purposes), Dixon's Boiler Graphite (for keeping down scale), Dixon's Belt Dressings, Dixon's Spring Oil & Rust Solvent, Dixon's Silver Lead (graphite) Foundry Facings.

Representatives: E. M. Brooks, L. G. Masner.

DODGE MANUFACTURING CORPORATION
Mishawaka, Indiana

Booth 56 R. and M. Building

DOHENY STONE DRILL COMPANY
Los Angeles, California

Exhibit: Hydril No. 3 Outfit.

Representatives: Frank R. Seaver, R. A. Silent.

DOMESTIC ENGINE & PUMP COMPANY
Shippensburg, Pennsylvania

Booth "P" Outside

Exhibit: Open Spout Diaphragm Pumps, Plunger Force Pumps, Automatic Priming, Trash Handling, Ball Bearing Centrifugal Pumps, 1931 Model High Pressure Force Pump, Gasoline Transferring Pumping Unit.

Representatives: W. E. Barbour, sales manager; W. H. Derbyshire, Southwestern sales engineer.

DONOVAN BOILER WORKS

Booth Nos. 46-59 California Building

DORR COMPANY
New York City, N. Y.

Lot B

DOVER STAMPING & MFG. COMPANY
Cambridge, Massachusetts

Booth Nos. 26-27 Refiners and Marketers Building

Exhibit: Drain-O-Kan. Complete line of goods manufactured for use by the Service Man, Oil Man, and Oil Jobber.

Representatives: Louis S. Cleaves, vice-president and sales manager; Horace E. Whitney, president and treasurer; Horace E. Whitney, Jr., salesman; Roy J. Hobbs, salesman; C. P. Rust, salesman.

DRIFTMETER, INC.
Tulsa, Oklahoma

Booth No. 63 Scientific & Technical Building

Exhibit: The Driftmeter Junior (Electromagnetic well surveying instrument).

Representatives: Howard S. Splane, president; W. W. Hester, manager.

DURAMETALLIC CORPORATION
Kalamazoo, Michigan

Booth No. 111 Oklahoma Building

Exhibit: Durametallic Packings—In Spiral and Ring Set Form, Grades B, C & D are comprised entirely of metallic foils, so arranged as to make a desirable, flexible metallic packing that is easily handled, Grades B-10, C-10 and D-10 consist of the same metallic foils as rae found in Grades B, C & D, but with an Elastic Core, which adds resiliency to the packing mass, while the metallic covering always presents an anti-frictional, lubricated surface to the rod, shaft or stem. Special attention is called to our Grades D & D-10. These are fabricated from metals and fibres that will give service in temperatures up to 1000° F, and are resistent to the organic compounds and acids, such as hydrogen sulphide and sulphide dioxide that are found in practically all crudes.

Representatives: Charles C. Hall, vice-president and general manager, Durametallic Corporation, 2104 Factory Street, Kalamazoo, Michigan; and A. A. Gallman, president, Durametallic Packing Company, 405 Equity Building, Oklahoma City, Oklahoma.

THE DURIRON COMPANY, INC.
Dayton, Ohio

Booth No. 112 Texas Building

Exhibit: Duriron, Durimet and KA-2 none corrosive material as applied to the petroleum industry. On exhibit will be Duriron mixing nozzles, Duriron pump for measuring acids, Durimet and KA-2 products which will be of interest to all oil refineries having corrosive troubles.

Representatives: Mr. W. H. Scott of the Dayton general office; Mr. Edward Soph, Duriron Tulsa representative; Mr. R. O. Ayers, Duriron, Houston representative.

DYESTUFFS AND CHEMICALS, INCORPORATED
St. Louis, Missouri

Booth No. 66 R. & M. Building

Exhibit: Dykem Green BN, Dykem Green N; Dykem

Green YN, Dykem Green GN, Dykem Blue, Dykem Blue G, Dykem Purple R, Dykem Red, Dykem Red B, Dykem Orange Y, Dykem Orange GY, Dykem Yellow N, Dykem Violet.

EAGLE PICHER LEAD COMPANY
Joplin, Missouri

Booth Nos. 49-50 — Texas Building

EDISON LAMP WORKS
Cleveland, Ohio

Booth No. 63 — R. & M. Building

E. H. EDWARDS COMPANY
San Francisco, California

Exhibit: Manufacturers of Wire Rope, Hinderliter Tool Company Midcontinent Distributors, Mystery Display—See your voice and have your character read. High grade, finely drawn wire plays important role in this new mechanical device as well as in the oil field drilling lines.
Representative: L. P. Gorsline.

ELECTRIC CONTROLLER AND MANUFACTURING COMPANY
Cleveland, Ohio

Booth No. 55 — California Building
Exhibit: 110-550-volt across-the-line Motor Starter, 110-550-volt reduced voltage Motor Starter, 2300-volt reduced voltage Motor Starter, 2300-volt across-the-line Motor Starter.
Representatives: R. J. Ehrhardt, T. D. Williamson, John Coleman.

ELECTRIC SUPPLY COMPANY
Booth No. 63 — R. & M. Building

EMERSON ELECTRIC MANUFACTURING CO.
St. Louis, Missouri

Booth No. 63 — R. & M. Building

B. V. EMERY & COMPANY
Tulsa, Oklahoma

Booth Nos. 39-40-65-66 — California Building

EMSCO DERRICK & EQUIPMENT COMPANY
Los Angeles, California

Outside.
Exhibit: No. 3 Draw Works Brake, H-54 Draw Works, Falk Pumping Units, H-27½ inch Inclosed Rotary.

ENAMELED METALS COMPANY
Pittsburgh, Pennsylvania

Booth No. 63 — R. & M. Building

ERIE METER SYSTEMS, INC.
Erie, Pennsylvania

Lot R
Exhibit: 1-V 753 Erie Meter Pump.
Representatives: C. L. Combs, assistant to the president, Western Sales manager.

ESTATE STOVE COMPANY
Booth No. 71 — Oklahoma Building

FAIRBANKS COMPANY
New York, N. Y.

Booth Nos. 26-27 — Texas Building

FALK CORPORATION
Milwaukee, Wisconsin

Open Space Lot R.

FEDERAL MALLEABLE COMPANY
West Allis, Wisconsin

Booth Nos. 6-7-8-9 — Texas Building

THE FEDERAL SUPPLY COMPANY
Open Space, Lot 10 x 10 ft.

FEEDWATERS, INC.
Tulsa, Oklahoma

Lot R

THE FERRO MACHINE & FOUNDRY COMPANY
Cleveland, Ohio

Booth No. 33 — Refiners and Marketers Building
Exhibit: Model 1200-1 Gasoline Pump for meter systems. 16 G.P.M. capacity at 1725 R.P.M. Featuring built-in by-pass and strainer. This pump is used with 1/3 H.P. motor Model 1200-6 Gasoline Pump for meter systems. 18 G.P.M. capacity at 1725 R.P.M. Featuring built-in by-pass and strainer. This pump is used with ½ H.P. motor. Model 1200-14 Remote Control Gasoline Pump for airport service. 20 G.P.M. capacity at 1725 R.P.M. Featuring built-in by-pass. Used with 1 H.P. motor. Model 1200-26 Remote Control Gasoline Pump for airport service. 35 G.P.M. capacity at 860 R.P.M. Featuring built-in by-pass. Used with 2 H.P. motor.
Representatives: N. D. Edwards, John K. Howell, E. W. Kewitz, W. D. Sweeny, H. B. Myers.

THE FILLING STATION & PETROLEUM MARKETER
Houston, Texas

18 x 18 ft. Outside.
Representatives: R. L. Dudley, A. L. Burns, S. W. Robinson, J. F. Carter, Jr., Grady Triplett, George Reid, Floyd Swindell, J. D. Isaacks.

THE FISHER GOVERNOR COMPANY
Marshalltown, Iowa

Booth Nos. 102-109 — Texas Building
Exhibit: Pump Governors, Gasoline Traps, Liquid Level Controllers, Reducing Valves, Back Pressure Regulators, Low Pressure Gas Regulators, House Service Regulators, Propane Regulators, Tank Vapor Control Units, Pilot Actuated Pressure Controllers.
Representatives: L. W. Browne, president; P. A. Elfers.

FORT WORTH WELL MACHINERY & SUPPLY CO.
Fort Worth, Texas

Outside Space
Representatives: W. J. Brown, W. B. Brown, R. L. McCann, H. G. Parr, C. H. Stoner.

THE FOXBORO COMPANY
Foxboro, Massachusetts

Booth Nos. 3-4-5 — Scientific and Technical Building
Exhibit: Refinery Pressure Gauge, Orifice Meters, Flow Ration Controller, Differential Limit Controller.

FRANCE PACKING COMPANY
Philadelphia, Pennsylvania

Booth No. 101 — Oklahoma Building
Exhibit: Metallic Packings, Sheet Packing, Gaskets.
Representative: A. W. France, president.

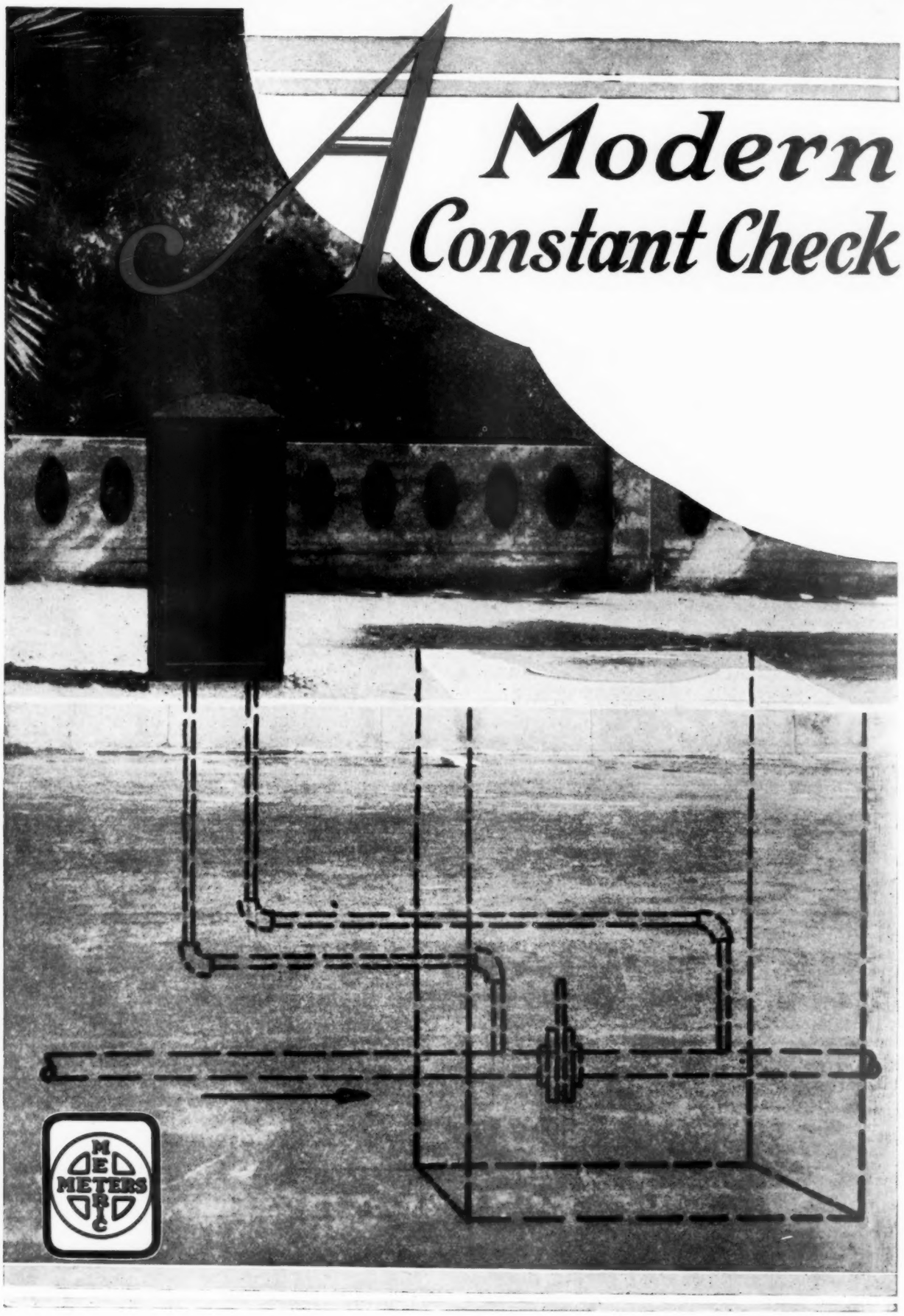
FRICK REID SUPPLY CORPORATION
Tulsa, Oklahoma

Booth Nos. 46 and 59 Adjoining — California Building
Exhibit: None. Our space is for convenience of our friends as a meeting place.

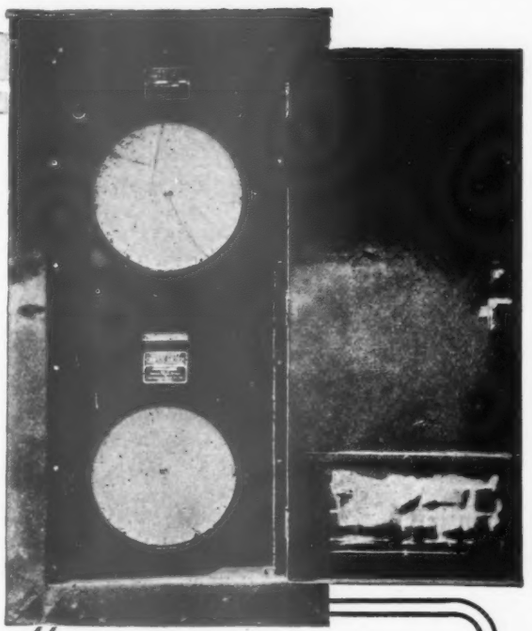
FUSION WELDING CORPORATION
Chicago, Illinois

Booth Nos. 6, 7 and 8 — Arcade Building
Exhibit: New Weldite Welding Rods for both gas and metallic arc welding and pipe lines and in refineries will be demonstrated. These new rods represent marked improvements in weld properties and operating characteristics. The Weldite Line represents over forty distinctly different welding rods designed to meet every requirement from the most ductile mild steel welds to the complex alloy steels for hard surfacing. The Fuzon Line of arc welding generators will be on display and in operation. Those designed especially for oil field work include portable models of various capacities which are compact, light weight and fully spring mounted on pneumatic tires. These portable models may be towed behind auto or truck at thirty miles an hour or easily moved short distance by hand. Welding generators for the shop will be in operation also. The complete line of Fuzon Welding Accessories and supplies will be displayed. An exhibit in full operation will be presented showing new welding applications and products developed by the Company's Research Staff for the various branches of the Petroleum Industry.
Representatives: M. P. Hare, Southwestern District man-

A Modern Constant Check



System of on Leakage



The box at the curb houses a duplex installation, consisting of a 50" and a 10" Westcott Orifice Meter as used by the Los Angeles Gas and Electric Company to check leakage in each district throughout their high pressure system. Placed between curb and walk it is easy to change charts. Testing is provided for by placing taps beside the meters; and the box can be fitted with bleed pipes from the manhole close by. The manhole gives access to the orifice disc in the gas main and to meter connections. With the 10" meter for measuring low volume flow and the 50" for measuring high volume flow, a record of maximum accuracy is obtained. Such installations permit exact knowledge of leakage by districts and quick location of the fault with only a fraction of the effort involved when the whole system must be examined.

FOR minimizing leakage in high pressure distribution, the Los Angeles Gas and Electric Company has a solution. The entire piping system is divided into comparatively small districts. Then, for each of these districts, the gas is measured by a Master Metric Orifice Meter.

The desirability of saving gas through subdivision and early discovery of leakage need not be stressed. The main value of this announcement lies in the fact that a progressive Company has actually evolved a successful modern method that is suited to widespread application in high pressure distribution. And, similarly, for low pressure work, a Metric Orifice Installation, designed for an average of one inch differential loss, offers comparable advantages.

Our research service and data are always at the command of any Gas Company considering a measuring problem of this character.

Complete information is also available on Linderman Orifice Meters, Metric Indicating Flow Meters, Metric Rate Volume Controllers, and Metric Ironcase Displacement Meters.

METRIC METAL WORKS
ERIE, PENNSYLVANIA
IRONCASE, TINNED STEEL CASE and ORIFICE METERS

AMERICAN METER COMPANY
INCORPORATED
The World's Largest Manufacturers of Gas Meters and Allied Apparatus
ESTABLISHED 1836

SALES SERVICE · ERIE · DALLAS · TULSA · DENVER · LOS ANGELES
SAN FRANCISCO · KANSAS CITY · PITTSBURGH · CHICAGO
PHILADELPHIA · NEW YORK · BALTIMORE · BOSTON · ALBANY

AMERICAN METER CO
MEASUREMENT ENGINEERS
CUBIC FEET

ager, Dallas; T. V. Burns, sales engineer, Houston; Clyde Rackley, sales engineer, Tulsa; L. F. Collins, general sales manager, Chicago; R. F. Beazell, sales promotion, Chicago.

GARDNER DENVER COMPANY
Quincy, Illinois

Outside Space with Sullivan Machinery Company.

THE GARLOCK PACKING COMPANY
Palmyra, New York

Booth No. 59 Texas Building

Exhibit: A complete line of mechanical packings and molded goods made from asbestos, rubber, cotton, flax, and various metals for every requirement of the oil producer and refiner.

Representatives: E. N. Fox, manager of Metal Packing Department; F. E. Erlandson, district manager, St. Louis; J. M. Foley, sales representative; H. M. Sweetin, sales representative.

GARY-SCREW AND BOLT CORPORATION
Booth Nos. 1-2 Texas Building

GASO PUMP AND BURNER MANUFACTURING CO.
Tulsa, Oklahoma

Booth No. 64 Oklahoma Building

Exhibit: Gaso Pumps.

Representatives: L. D. Armstrong, H. F. Stoven, J. E. Wingen, M. J. Flanagan, T. J. Flanagan.

GATES HARDWARE COMPANY
Tulsa, Oklahoma

Outside Space.

GENERAL CHEMICAL AND SOLVENTS CORP.
Boston, Massachusetts

Booth No. 43 Texas Building

GENERAL ELECTRIC COMPANY
Schenectady, New York

Booth Nos. 76-77-134-135 Texas Building

GENERAL MOTORS TRUCK CORPORATION
Pontiac, Michigan

Lot J

GENERAL PAINT CORPORATION
Booth Nos. 38-39 Texas Building

GIANT MANUFACTURING COMPANY
Council Bluffs, Iowa

Lot Q

GILBERT & BARKER MANUFACTURING CO.
Springfield, Massachusetts

Booth No. 3 Refiners and Marketers Building

GLOBE MACHINERY AND SUPPLY COMPANY
Des Moines, Iowa

Southeast Corner Block Q Outside

Exhibit: Globe Auto Hoist, Globe Bus and Truck Hoist.

Representatives: F. S. Harshbarger, vice president; F. R. Johnston, advertising manager; L. H. Kinsel, western manager; W. J. Dowdy, central manager.

GLOBE OIL TOOLS COMPANY
Los Nietos, California

Booth Nos. 63-64 California Building

Exhibit: 1. Globe Expansion Bit; 2. Globe Disc Bit; 3. M-5, B-2 Drilling Bit; 4. Model M Rock Bit; 5. Model M 3 Point Reamer; 6. H. E. Smith Coring Equipment; 7. "Anglite" Diamond Metal; 8. Other small specialties.

Representatives: Edgar H. Wilson, in charge of booth and assistant sales manager for Globe Oil Tools Company, assisted by Ralph Dinger.

B. G. GOBLE
Tulsa, Oklahoma

Outside Space.

GOODRICH ELECTRIC COMPANY
Chicago, Illinois

Booth No. 41 Refiners & Marketers Building

Exhibit: Porcelain Enameled Reflectors; Vapor-Proof Fixtures; No-Kon-Bend Sign Lighting Reflectors; Flood Lights for outdoor spaces; Weatherproof Lighting Fixtures; Office Lighting Fixtures.

Representatives: W. J. Goodrich, A. H. Hardy.

B. T. GOODRICH RUBBER COMPANY
Akron, Ohio

Booth No. 54 Texas Building

GOSLIN-BIRMINGHAM MANUFACTURING CO.
Birmingham, Alabama

Booth No. 54 California Building

GRANGER INDICATOR COMPANY
Whittier, California

Booth No. 64 Texas Building

Exhibit: Granger Tubing Leak Indicator, Granger Tubing Bleeder "Fluid Locked."

Representatives: Paul H. Granger, president; R. L. Melton, manager Mid-Continent.

GRISCOM RUSSELL COMPANY
Dallas, Texas

Booth Nos. 42-43 Oklahoma Building

GROLIER SOCIETY
Kansas City, Missouri

Booth No. 49 California Building

THE GUIBERSON CORPORATION
Dallas, Texas

Booth Nos. 116-117-118 Oklahoma Building

THE GULF PUBLISHING COMPANY
Houston, Texas

18x18 feet Outside.

Representatives: R. L. Dudley, A. L. Burns, S. W. Robinson, J. F. Carter, Jr., Grady Triplett, George Reid, Floyd Swindell, J. D. Isaacks.

ERLE P. HALLIBURTON COMPANY
Duncan, Oklahoma

Open Space Lot "D"—30x30 feet.

HALLIBURTON OIL WELL CEMENTING CO.
Duncan, Oklahoma

Lot "D" Outside.

Exhibit: We will exhibit the latest in cementing equipment and other devices which we manufacture. Outstanding will be a fully equipped, six-cylinder cementing truck, which will be in actual operation at the exhibit. We will have on hand a number of cementers, engineers and chemists, who will be glad to explain any special phase of cements, cement or drilling fluids, that may be asked by the visitors.

Representatives: H. C. Gloeckler, vice president; A. D. Stoddard, chief engineer, and C. P. Parsons, field engineer. Superintendents and men from various districts will be at the booth on certain days during the exposition.

HAMER OIL TOOL COMPANY, LTD.
Long Beach, California

Booth Nos. 51-52 California Building

HANLON-WATERS, INC.
Booth Nos. 102-103-108-109.

HAPPY BELTING COMPANY
Tulsa, Oklahoma

Booth Nos. 72-3-4-5 Oklahoma Building

Exhibit: Happy Automatic Band Wheel Power Idler, Happy No. 3 Vertical Tightener for Beam Well, Happy "EC" (Engine to Countershaft) Tightener for Countershaft belt, No. 11-22-23 Automatic Belt Contactors (for short centers and high speed), Happy Innerstitched Pumper Belt, Happy Leather Belt.

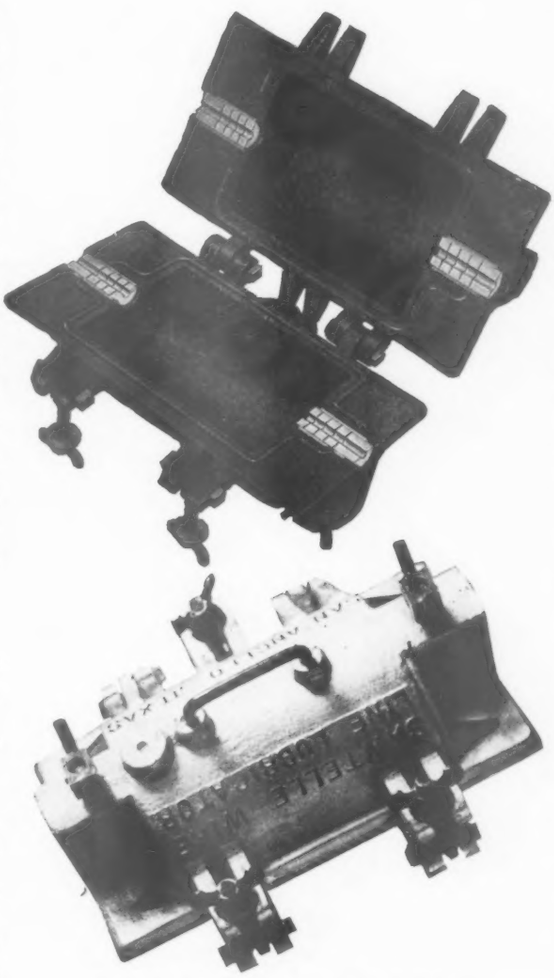
Representatives: P. E. Mahaffey, president; A. F. Nixon, sales manager; A. M. Butcher, sales engineer; R. C. Lindley, treasurer; L. C. King, manager Seminole Store; T. L. Fuller, salesman; C. E. Bailey, engineer.

269 INSULINE

PENETRATES TO THE CORE

The most modern development in wire lubrication is 269 INSULINE. ALL ordinary lubricants for wire lines lubricate only, whereas 269 INSULINE, in addition to giving 100% lubrication clear through to the core, also presents an insulating coating that is not affected by any of the troublesome elements such as lime or salt water, sulphur water, gas or any other corrosive agent encountered in drilling.

We have perfected the entire process of application so that operators can profit by this protection easily and economically. The "D-H" Wire Line Lubricator saturates wire line with 269 INSULINE while it is being run in casing.



Open and closed view D-H Lubricator to be used with "269 INSULINE"

Sulphur water—lime or salt water—gas—and all other corrosive agents encountered in drilling—do NOT effect wire lines protected by 269 INSULINE. Operators who apply it after every sixth tower find a material absence of one-strand breaks — fraying out — and consequent fishing jobs.

Wherever possible 269 INSULINE should be put on the wire line before it is put into use and then the line should be treated with 269 INSULINE after every sixth tower. Where this method is followed there is a very noticeable absence of one strand breaks, fraying out, fishing jobs, etc.

D-H PIPELINE PAINT SAVES THE PIPE

West Texas and New Mexico Distributors for BUTLER MFG. CO.

PORTABLE STEEL BUILDINGS

DRANE-HUMPHREY COMPANY INC.

D-H WIRE LINE LUBRICATOR — OIL FIELD TANKS — CORROSION RESISTING PAINTS

PETROLEUM BLDG. FT. WORTH — SAN ANGELO, TEXAS

NORVELL-WILDER SUPPLY CO., *Distributors.* BEAUMONT—HOUSTON—FT. WORTH—SHREVEPORT

A
PERPETUAL
EXPOSITION
OF QUALITY
PRODUCTS
ONLY

◆

Frick-Reid Stores, representing the world's foremost manufacturers of oil country supplies and equipment, constitute a perpetual exposition of the finest, most dependable and most highly developed lines in the Petroleum Industry.

FRICK
SUPPLY CO

◆ AXELSON MANUFACTURING COMPANY, LTD.

Sucker Rods; Pull Rods; Plunger Working Barrels (Pumps); Stuffing Boxes, etc.

◆ BEAUMONT IRON WORKS COMPANY

Dreadnaught Rotary Equipment. Water-cooled Drawworks; Timken Bearing equipped Straight Line Crown, Traveling and Tubing Blocks; Pumping Hoists; Electrically Driven Bailing line Reels; Structural Steel Walking Beams with patented Internal Truss Brace; Casing Shoes, clamps, river clamps, etc.

◆ DONOVAN BOILER WORKS

Oil Country Boilers and Tanks. Boilers range from low pressure to 350 pounds W.P., for the deepest and hardest drilling demands.

◆ FRICK-REID SERVICE BELTING

Friction Surface Rubber Belting made to our own specifications.

◆ JONES & LAUGHLIN STEEL CORPORATION

Tubular goods including Buttwelded, Lap-welded and DOUBLE PIERCED Seamless steel in Line Pipe, Tubing, Drill Pipe and Casing.

◆ NATIONAL TRANSIT PUMP & MACHINE COMPANY

Pumps, Gas Engine Compressors, Pipe Line Equipment, etc.

◆ WILLIAM POWELL COMPANY

Valves for the Petroleum Industry.

◆ J. P. RATIGAN

The "SURE-GRIP" line of pumping equipment including Grips, Clamps, Beam Hangers, etc.

◆ JOSEPH REID GAS ENGINE COMPANY

Gas Engines, two and four-cycle; Band Wheel and Direct Drive Pumping Powers, Receiving Boxes and other refinery equipment.

◆ JOHN A. ROEBLING'S SONS COMPANY

Wire Line; Gas and Electric Welding Wire.

◆ ROSSENDALE-RUBOIL COMPANY

"Camel Hair" and stitched canvas belting.

◆ WALWORTH COMPANY

Fittings, Valves and Tools for Steam, Water Gas, Oil and Air.

◆ WHITLOCK CORDAGE COMPANY

Manila Cordage, Drilling Cables, Bull Ropes, Cat Lines, etc. Either Waterflex or Plain. Waterflex cordage is impervious to moisture.

-REID
RPORATION

PITTSBURGH, PENN.
TULSA, OKLA.
...AND BRANCHES

J. A. HARDIN
Tulsa, Oklahoma

Booth No. 37 Refiners and Marketers Building

Exhibit: Burdick Enamel Sign Company, Chicago; Porcelain Enamel Signs, Press Sign Company of St. Louis, Smalt, Duco and Lead and Oil Steel Framed Signs.

Representatives: George S. Blome, Baltimore Novelty and Enamel Company, Baltimore, Md.; F. H. Meyer Burdick Enamel Sign Company, Chicago, Ill.; Albert Levy, Press Sign Company, St. Louis, Mo.; Robert Etzkorn, St. Louis, Mo.

HARNISCHFEGER SALES CORPORATION
Milwaukee, Wisconsin

Booth Nos. 6-7 Oklahoma Building

HAYNES STELLITE
Kokomo, Indiana

Booth Nos. 16 and 17 Texas Building

Exhibit: The Haynes Stellite Company, pioneer manufacturers of hard facing and hard setting products, will demonstrate the use of Haynes Stellite and Haystellite on drilling and coring tools. A new product, "Composite Rod", to be shown this year, consists of a solid rod of Haynes Stellite impregnated with Haystellite, combining the abrasive resisting properties of these two alloys. A series of corrosion resistant alloys called "Hastelloy" will be exhibited for the first time. Hastelloy A, C and D resist hydrochloric, nitric and sulphuric acids, respectively, while being resistant also to attack by alkalies, organic acids and other corrosive agents.

Representatives: W. S. Tromley, R. L. Lerch, E. E. LeVan.

HAYS CORPORATION
Michigan City, Indiana

Booth Nos. 8-9 Scientific and Technical Building

HAZARD WIRE ROPE COMPANY
Wilkes-Barre, Pennsylvania

Booth Nos. 26-27 Texas Building

HEAT TRANSFER PRODUCTS, INC.
New York, N. Y.

Booth Nos. 94-95-96 Oklahoma Building

HEDGES-WALSH WEIDNER COMPANY
Chattanooga, Tennessee

Open Space 10x30 feet in Lot D.

C. M. HEETER SONS & CO., INC.
Butler, Pennsylvania

Booth No. 19 Oklahoma Building

Exhibit: Heeter's Imp. Pat'd. Corrugated Friction Sockets, Heeter's Imp. Pat'd. Swabs, Heeter's Imp. Pat'd. Packers (of all styles), Heeter's Imp. Pat'd. Pipe Grips, Heeter's Imp. Pat'd. Release Couplings, Heeter's Imp. Pat'd. Applied for Casingheads, Heeter's Imp. Pat'd. Applied for Tool Braces.

Representatives: Mr. Colonel C. Heeter, Mr. H. K. Fuller.

HEINE BOILER COMPANY
St. Louis, Missouri

Space 10x30 feet, Lot D.

HERCULES MOTORS CORPORATION
Canton, Ohio

30x40 feet Open Space Lot, Block L.

HERCULES TOOL COMPANY
Tulsa, Oklahoma

Booth No. 33 California Building

Exhibit: Hercules Casing Heads (with Slips), Hercules Tubing Hangers, Hercules Tubing Anchors, Hercules Tubing Spiders, Hercules Flow Heads (for air and gas lift), Hercules Upset Pumping and Flowing Tees, Hercules Tubing Rotators, Hercules Tubing Strippers, Hercules Casing Head Adapters, Hercules Forge Steel Tubing-Heads.

Representatives: S. P. Tschappat, Harold Callahan, Joe Laley, C. H. McCready.

HILL HUBBELL AND COMPANY
Texas Building

HILLS McCANNA COMPANY
Chicago, Illinois

Booth No. 99 Texas Building

Exhibit: Chemical Proportioning Pumps, Force Feed Lubricators, Tank Car Valves, Liquid Samplers, Thermometer Wells, Grease Pumps.

Representatives: F. R. Grassle, Ed Soph, A. P. Wright.

HINDERLITER TOOL COMPANY
Tulsa, Oklahoma

Booth Nos. 22-23-24 Texas Building

HOPKINS EQUIPMENT COMPANY
Tulsa, Oklahoma

Lot H

THE CHARLES N. HOUGH MFG. CO.
Franklin, Pennsylvania

Booth No. 84 Texas Building

Exhibit: Hough Pumping Specialties. "STEELEX," "REPELEX," "BRONZEX" and "COMBINEX" Balls and Seats, Working Barrels of various types, Seamless Steel Working Barrels and different types of Liner Working Barrels including the Huf-Duo Pump, Lewis Plunger Liner and 2-Cup Inserted Liner. "Protex" upper valve, Hough Extension Lower Valve and various types of other Working Barrel Valves.

Representatives: C. O. Shumaker, Tulsa, Oklahoma; C. R. Brooks, Fort Worth, Texas; C. N. Hough, Franklin, Pa.; O. J. Thompson, Franklin, Pa.

HOUSTON CAR WHEEL AND MACHINE CO.
Houston, Texas

10x10 feet, Outside.

HUGHES TOOL COMPANY
Houston, Texas

Booth Nos. 87-88-123-124. Oklahoma Building

HYATT ROLLER BEARING COMPANY
Newark, New Jersey

Booth Nos. 78-79 Texas Building

IMPERIAL BRASS MANUFACTURING CO.
Chicago, Illinois

Booth No. 60 California Building

IMPROVED STEEL GAS ENGINE HEAD CO.
Tulsa, Oklahoma

Booth No. 33 Texas Building

INDEPENDENT OIL AND GAS COMPANY
Tulsa, Oklahoma

Booth Nos. 18-19 R. & M. Building

INDIANA RUBBER AND INSULATED WIRE CO.
Jonesboro, Indiana

Booth No. 63 R. & M. Building

INGERSOLL-RAND COMPANY
New York

Exhibit: Maxiflo Control for flowing oil wells by air or gas lift. Working exhibit to be operated with air furnished by Ingersoll-Rand Type 30, electric-driven, air-cooled compressor.

Representatives: John Rogers, manager, oil field department; G. B. Small, Tracy L. Clarke, manager, Tulsa office.

INSLEY MANUFACTURING COMPANY
Indianapolis, Indiana

30x30 feet Lot "C" Outside.

THE INTERNATIONAL DERRICK & EQUIPMENT COMPANY
Columbus, Ohio

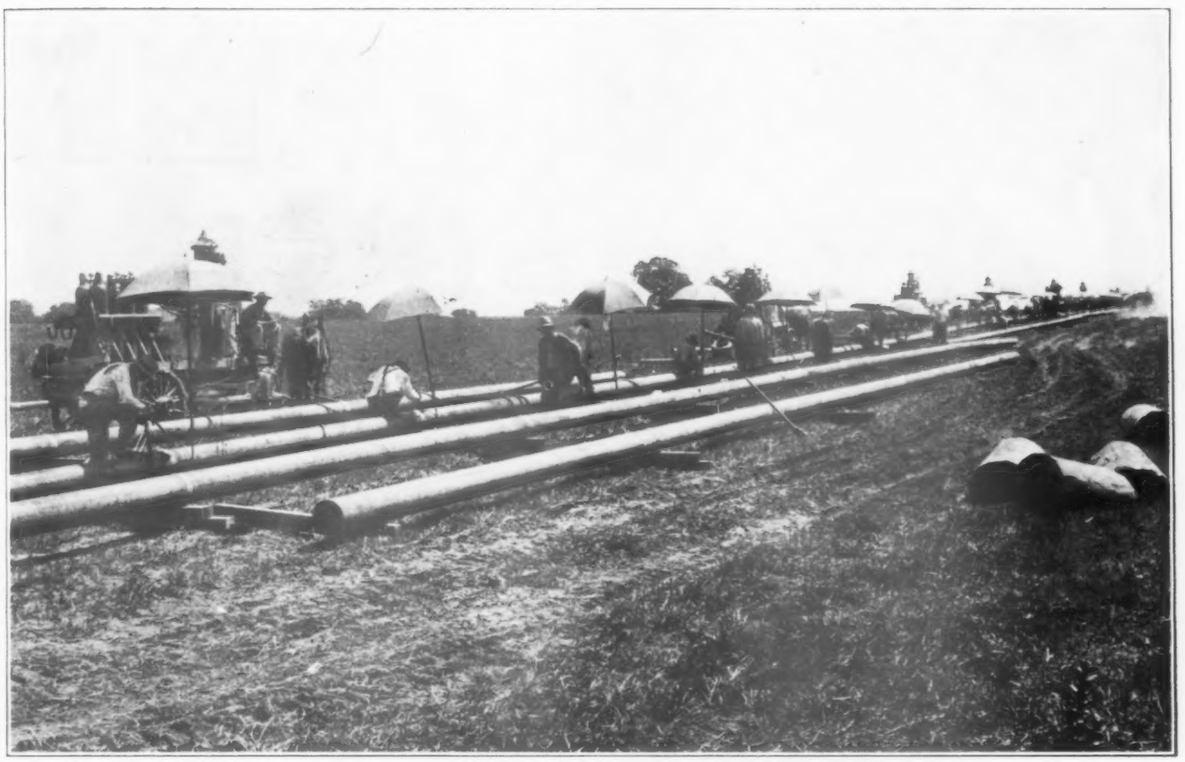
Exhibit: Ideco Super Duty Four-Speed Draw Works, Ideco Oil Bath Swivel, Ideco Oil Bath Rotary, Ideco Portable Drilling Rig.

INTERNATIONAL FILTER COMPANY
Chicago, Illinois

Booth Nos. 48-49 Oklahoma Building

Exhibit 1. Infilco Lime-Oil Feeder and Mixer which au-

FROM RIGHT OF WAY CLEARING TO BACKFILLING



WELDING ON THE AJAX LINE NEAR JENKS, OKLAHOMA

ON THE 400 MILE AJAX (DOUBLE) 10 INCH LINE

Against steep and rocky hills, with five major stream crossings, over bottom lands and other obstacles, the Oklahoma Contracting Company is pushing ahead on the double 10-inch line of the Ajax Pipe Line Company. These lines, laid in separate ditches, actually means the laying of two lines at once.

The Oklahoma Contracting Company was entrusted with the full responsibility of this job, from clearing the right of way to backfilling.

OKLAHOMA CONTRACTING CO.

PIPE LINE ENGINEERS AND CONTRACTORS

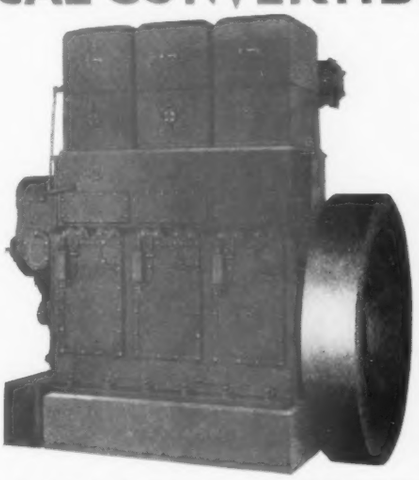
General Offices: Allen Building, Dallas, Texas

Branch Office: Oklahoma Gas Bldg., Tulsa, Okla.

LEADING DE
COOPER-B
SINCE LAS
NEW TYPE GA--- NEW COMPRESSOR
PUMPING AND DRILLING
Lower maintenance costs and increased production are two important results of the improvements in the new Type GA pumping and drilling engine (25 to 50 B. H. P.) When you see this engine at the Tulsa Exposition be sure to pay especial attention to these features :
(1) Timken main roller bearings, (2) Die-forged crank shaft, (3) Sturdy main frame, (4) Improved air valve, (5) Special materials where needed.
COMPR
The design of this new line of compressor cylinders was worked out after carefully studying the faults and advantages of all makes in use. Some of the im-
THE COOPER-BESSEMER CORPORATION,

DEVELOPMENTS OF
BESSEMER
LAST WE MET !

ESSOR CYLINDER--- NEW VERTICAL CONVERTIBLE



COMPRESSING

provements which give this cylinder greater month-in-and-month-out capacity are:

(1) Valve-in-head construction, (2) Clearance reduced to a minimum, (3) Higher efficiency, (4) Better water cooling, (5) Special materials giving extra strength.

AUXILIARY POWER

The auxiliary engines in a station must be as dependable as the main compressor units. This Type-14 (75 to 200 B. H. P.) convertible engine is compact and reliable. Following are several of the more important features:

(1) Main frame of ample strength, (2) Die-forged crank shaft, (3) Drop forged connecting rod, (4) Separate mixing valve for each cylinder, (5) Silent roller chain driven cam shaft, which is carried on roller bearings.

N., MT. VERNON, OHIO — GROVE CITY, PA.

tomatically proportions hydrated lime and oil and forms a homogenous mixture of the two for continuous feed to cracking stills to prevent corrosion.
2. Infilco Crystalite Water Softener which prevents scale formation in internal combustion engines, natural gasoline cooling plants and in steam boilers will be displayed in "cut-a-way" form.
3. Infilco Steam Purifiers and Line Type Gas Purifiers will be displayed in various forms for removing all moisture and dirt from steam and all liquids from natural gas.
Representatives: L. K. Cecil, L. D. Matter, Geo. E. Brown, Jr., P. N. Engel, O. A. DeCelle, W. J. Hughes.

INTERNATIONAL HARVESTER COMPANY OF AMERICA
Chicago, Ill.; Tulsa, Oklahoma

Display Space 10 x 70 ft. (Outside display).
Exhibit: International Motor Trucks—1½, 2, and 3-ton capacities—mounted with various types of oil field and oil distribution equipment; also various models of McCormick-Deering industrial tractors with oil industry equipment.
Representatives: R. W. Elliott, manager, Tulsa, Oklahoma, branch; S. C. Humbert, J. W. Leitenberger, R. L. Adams.

INTERNATIONAL MAP COMPANY
New York, N. Y.

Open Space Lot

THE INTERNATIONAL NICKEL COMPANY
New York City, N. Y.

Booth No. 45 Scientific and Technical Building

INTERNATIONAL SUPPLY COMPANY
Kansas, Oklahoma and Mexico

Booth No. 60 Texas Building

IVERSON TOOL COMPANY
Tulsa, Oklahoma

Booths Nos. 51-52 California Building
Exhibit: Hamer All Steel Seven Joint Rotary Hose, Hamer Lubricated Stop Cocks, Hamer E-Z Out Liner Sleeves, Hamer E-Z Out Valve Seats, Taylor-Mildren Wire Line Clamp, Forged Steel Fittings Christmas Tree, Brewster Bits.
Representatives: P. M. Iverson, H. M. Lundquist, L. S. Hamer, Mr. Pennick.

JACKSON ENGINEERING CORPORATION
Tulsa, Oklahoma

Booth Nos. 94-95-96 Oklahoma Building
Exhibit: Special Vapor Recovery Processes, Gasoline Absorption Plants, Bubble Towers and Heat Exchangers, Floor Atmospheric Cooling Towers, "Unipulvo" Pulverizer for utilization of Petroleum Coke for Boiler Fuel.
Representatives: G. M. Jackson, president; H. S. Houghton, manager of manufacture; D. B. Banks, assistant manager of manufacture; A. W. Burket, Mid-Continent sales manager; Karl Finsterbush, process engineer; A. T. Krook, assistant sales manager; E. J. Hudson, Texas sales manager; M. H. Roths, sales engineer; A. W. Pratt, sales engineer; W. G. Miller, assistant process engineer.

JARECKI MANUFACTURING COMPANY
Tulsa, Oklahoma

Booth No. 55 Texas Building

JENKINS BROTHERS
New York, N. Y.

Booth Nos. 36-35 California Building
Exhibit: Bronze Globe, Angle, Cross, Check, Foot, Selclo, Gate Valves in standard, medium, and extra heavy patterns. Iron Body Globe, Angle, Cross, Check, Combination Stop and Check, and Gate Valves in standard, medium and extra heavy patterns. Iron Body Double Disc Parallel Seat Gate Valves, Mechanical Rubber Goods, Gauge Glasses, and Steam Metal Discs.
Representatives: J. R. White, Fred C. Ernst, C. L. Wait, L. L. Wait, C. L. Jackson.

THE JENSEN BROTHERS MANUFACTURING CO.
Coffeyville, Kansas

Block F Open Air Space
Exhibit: One Jensen Straight Lift Electric Pump Jack No. 14, equipped with a multiple V-Belt drive and 10 horsepower electric motor.
Representatives: K. R. Jensen, W. G. Jensen, E. H. Jensen, Max J. Huber, J. W. Tinsley.

JONES & LAUGHLIN STEEL CORPORATION
Pittsburgh, Pennsylvania

Booths Nos. 12 to 16 Inclusive Oklahoma Building
Exhibit: J. & L. Double Length Pipe, Seamless Casing, Seamless Drill Pipe, A. P. I. Tubing, Seamless Upset Tubing, Tubular Products.
Representatives: J. Z. Collier, A. E. Crockett, H. E. Fisher, F. D. Grunder, A. P. Holloway, J. B. Hungate, H. L. Miller, J. H. Sennett, W. R. K. Scott, Carl E. Swindler, H. P. Quinn.

THE S. M. JONES COMPANY
Toledo, Ohio

Booth No. 18 Oklahoma Building
Exhibit: Sucker Rods.
Representatives: P. C. Jones, D. R. Dale, A. L. Meeks, W. C. Meeks, W. E. Harvey.

J. KAMMERDINER
Los Angeles, California

Booth No. 30 Oklahoma Building

KEMPER THOMAS COMPANY
Cincinnati, Ohio

Booth No. 11 Texas Building

KELLOGG SWITCHBOARD & SUPPLY COMPANY
Chicago, Illinois

Booth No. 7 Scientific & Technical Building
Representatives: H. M. Stewart, G. G. Gardner.

KEROTEST MANUFACTURING COMPANY
Pittsburgh, Pennsylvania

Booth No. 67 Texas Building

KEY BOILER EQUIPMENT COMPANY
East St. Louis, Illinois

Booth Nos. 1-2 R. and M. Building

KEYSTONE DRILLER COMPANY
Joplin, Missouri

Lot M
Exhibit: One No. 5½ Keystone Traction Spudder (Joplin Special). One No. 9 Keystone Allsteel Deep Well Spudder.
Representatives: J. V. Downie, Beaver Falls, Pennsylvania; Guy Roos, Beaver Falls, Pennsylvania; F. B. Ransom, Joplin, Missouri; F. Oliver, Joplin, Missouri.. E. E. Blosser, Joplin, Missouri; H. C. Hutchison, Joplin, Missouri.

KIBELE MANUFACTURING COMPANY
San Antonio, Texas

Booth H, Outside.

KING LUMINAIRE COMPANY
Chicago, Illinois

Booth Nos. 65-66 Texas Building

KLENZMOTOR CORPORATION
Fort Wayne, Indiana

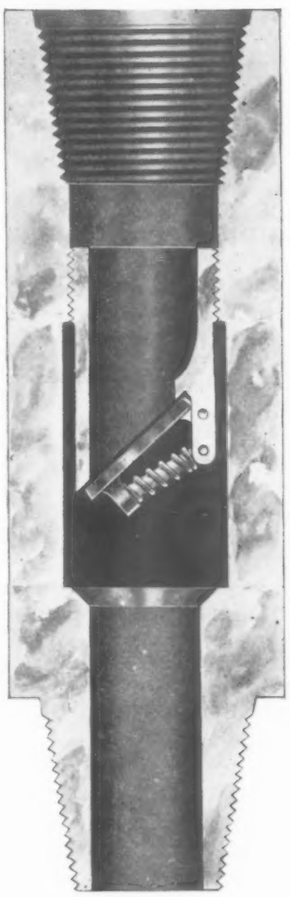
Booth No. 53 California Building
Exhibit: Klenzmotor Electric Automotive Cleaning Machines, Klenzmotor Electric Heater, Crankcase, Transmission and Differential Cleaning Equipment.
Representatives: D. G. Milligan, president; R. O. Snyder, sales representative Central States; W. L. Osborne, sales representative West Coast States.

KOEHRING COMPANY
Milwaukee, Wisconsin

30 x 30 ft. Lot "C", Outside.

LeBus Drill Pipe Float

[Or Back Pressure Valve]



CLOSED

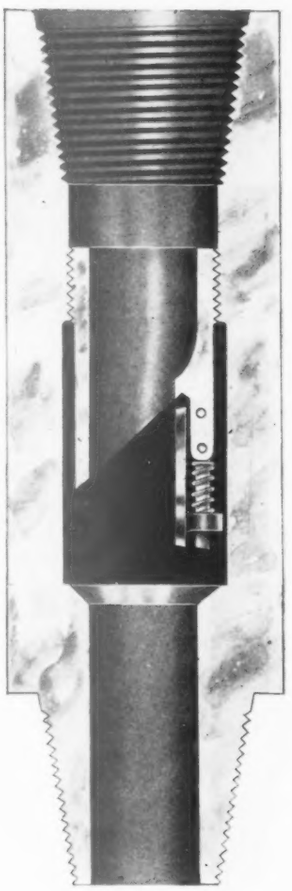
RUN YOUR ACID TEST CONTAINER WITH THIS FLOAT IN THE STRING

A straight shot flow for full volume that can not be fouled by trash. The valve flap, spring, spring guide, and hinge pins are protected from the usual wear of the circulating mud. Shot can be run through without milling out the insert.

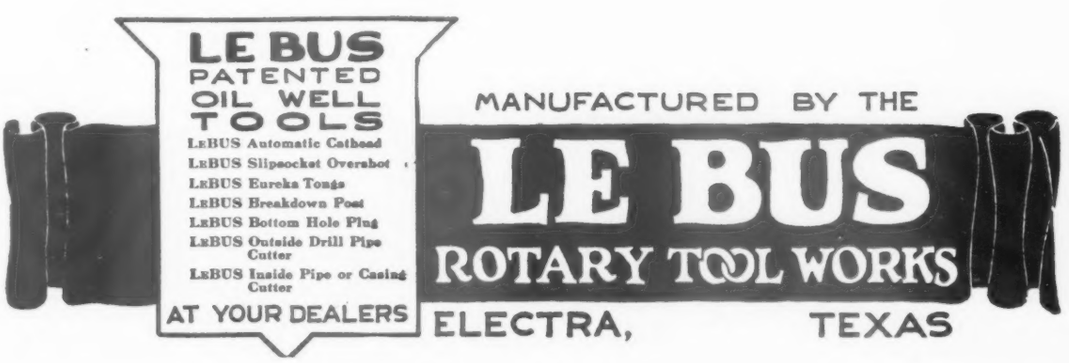
• • •

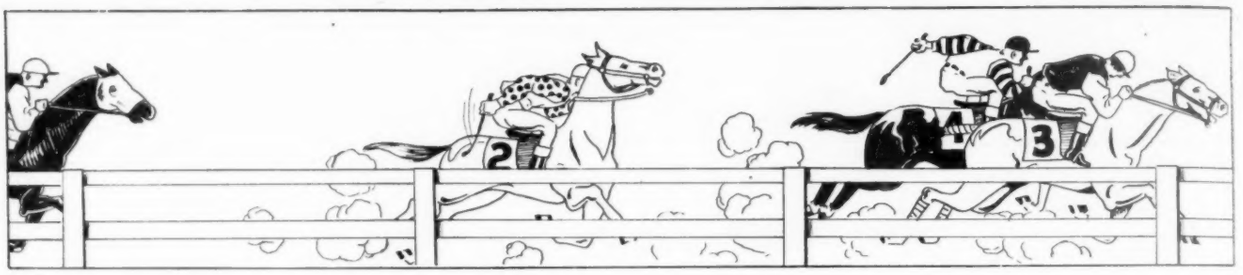
Patent Pending

• • •



OPEN





'WAY OUT

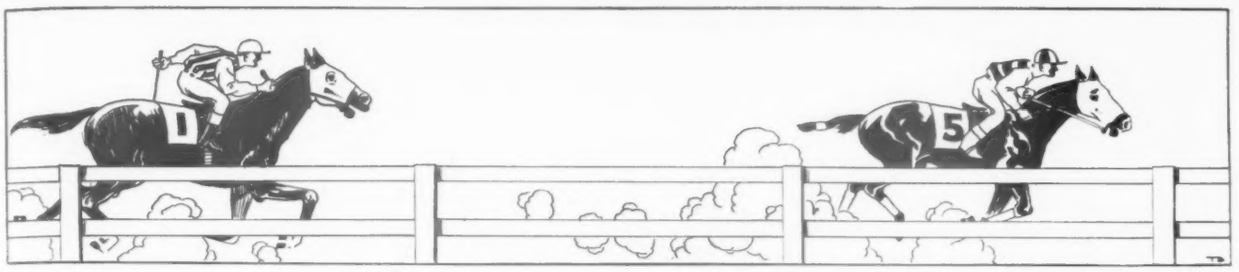
THE Murray Tool and Supply Company—with a scope of service extending from—thoroughly testing every product offered the trade before it is stocked in Murray Stores—to the servicing and installing of equipment in the field.

Your reliable source of supply is available 24 hours a day — from conveniently located stores and shops in the Mid-Continent Field. All of these stores are a complete source of supply—able to fulfill the need for equipment or service in their particular field.

Oklahoma City, Okla.
Pawhuska, Okla.
Seminole, Okla.
Tulsa, Okla.
Yale, Okla.
Pampa, Texas
Hobbs, New Mexico
Wichita Heights, Kansas

While attending the Oil Exposition, be sure to see the installation of the three types of HYDRIL Rotary Equipment.

YOUR RELIABLE SOURCE OF SUPPLY



IN FRONT

WHEN you buy oil field supplies or equipment from a Murray Store—you know that it is reliable and is backed by an organization renowned for its service.

Below are the products of manufacturers of proved oil field equipment—cable, rotary tool and supplies, procurable through Murray Stores. Reliable products made by the country's leading manufacturers—selected by Murray to give you better service—to save you time and money on every job.

Wilson - Snyder Slush Pumps
Hydril - Rotary Equipment
Hughes Rock Bits and Cones
Wilson-Snyder Slush Pumps
Hydril-Rotary Equipment
Waterbury Manila Rope
Lawcore Bull Ropes
Lawcore Cat Lines
Pittsburgh Seamless Drill Pipe
Pittsburgh Seamless Casing
Rainbow Rotary Hose
Regan Equipment
B-J Equipment
Valves and
Fittings

UNIVERSAL WIRE LINES

MURRAY TOOL & SUPPLY COMPANY
CLEVELAND, OKLAHOMA

KOHLER COMPANY
Philadelphia, Pennsylvania

Open Space, Lot SE ¼, Block K 15 x 15 ft.

KOPPEL INDUSTRIAL CAR & EQUIPMENT CO.
Koppel, Pennsylvania

Booth No. 11 Refiner and Marketing Building

K-W IGNITION CORPORATION
Cleveland, Ohio

Open Space, Lot F

LANDIS MACHINE COMPANY
Waynesboro, Pennsylvania

Booth Nos. 4-5 Oklahoma Building

Exhibit: New Landis 8-inch Pipe Threading and Cutting Machine with Receding Chaser two-cut die head and leadscrew attachment. Landis Threading Die Heads. Victor Collapsible and Adjustable Taps.

Representatives: C. N. Kirkpatrick, G. M. Stickell, R. G. Mumma, H. W. Marker, D. S. Mair of the D. S. Mair Machinery Corporation, Houston, Texas; C. J. Harter of the D. S. Mair Machinery Corporation, Houston, Texas; O. W. Johanning of the Colcord-Wright Machinery & Supply Company, St. Louis, Missouri.

LARKIN PACKER COMPANY
St. Louis, Missouri

Booth No. 99 Oklahoma Building

Exhibit: Float Collars with Aluminum valves reinforced with concrete, Float Shoes with Aluminum valves reinforced with concrete, Guide Shoes with Aluminum valves reinforced with concrete, Spider and Slips, Combination Packing Heads, Sand Pumps, Die Nipples, Swage Nipples, Bull Plugs.

Representatives: J. E. Kilzer, C. F. Dougherty, W. H. Larkin, D. F. Fournier, Milt Greve, V. W. Smith.

THE LEAVITT MACHINE COMPANY
Orange, Massachusetts

Booth No. 16 California Building

Exhibit: Dexter Globe Valve Reseating Machines, Dexter Gate Valve Reseating Machines, Dexter Pump Valve Reseating Machines, Dexter Tank Car Outlet Valve Reseating Machines.

Representative: E. S. Hersey, field engineer.

LEEDS & NORTHRUP COMPANY
Philadelphia, Pennsylvania

Booth Nos. 59-60 Scientific and Technical Building

Exhibit: The most interesting instrument in the L. & N. Exhibit, International Petroleum Exposition, will be the L. & N. Anticipatory Recording Controller. The complete apparatus will consist of an Anticipatory Recording Controller, a double motor, balancing three-position valve and relays.

The control obtained with this equipment in automatically maintaining temperatures of the liquid in fractionating towers is just as if a skilled operator remained with his hands on the control valves, eyes on the pyrometer chart, ready to make an adjustment for any temperature variation.

The anticipating feature takes the place of the judgment of the operator. Over or undershooting of the control point is prevented no matter the rate of the original temperature departure. Whatever the fuel requirements are to maintain correct furnace temperature, the controller automatically finds the correct setting. A display panel illustrating by working models that the L. & N. Potentiometer Recorder is in effect an electrical "balance" will be shown. L. & N. Potentiometer Pyrometers, Controllers and L. & N. Pyrometer Checking Equipment complete the Exhibit.

Representatives: H. Brewer, B. F. Koepke, G. C. Graf, R. W. Bergen, M. B. Fisher.

LELAND EQUIPMENT COMPANY
Tulsa, Oklahoma

Block C

Exhibit: Models 25 and 35 Parsons Trenching Machines, New 6-Cylinder Type R Insley Crane, C. H. & E. Diaphram Pumps, Koehring and Smith Concrete Mixers, Schramm Compressors, Schramm G-E Welder, Panghorn Sand Blast, Pneumatic Tools and Accessories, Winders, Spencer Trailers, Chains, Binders, Utility Six-Wheel Units and Transmission Power-Take-Offs.

Representatives: H. R. Leland, president; F. B. Carr, vice president; H. C. Adelhelm, secretary-treasurer; J. T. Code, salesman; Houston Johnson, salesman; F. O. Medlin, salesman; J. F. Russell, salesman; Al Strong, salesman.

LE ROI COMPANY
Milwaukee, Wisconsin

Lot R

LINCOLN ELECTRIC COMPANY
Cleveland, Ohio

Open Air Space on Main Street in front of Buildings.

Exhibit: Lincoln "Stable Arc" Welders, Fleetweld Electrodes and other accessories manufactured by the Lincoln Electric Company.

Representative: A. F. Davis, vice president.

THE LINDE AIR PRODUCTS COMPANY
Booth Nos. 18-19-20-21 Texas Building

LINK-BELT COMPANY
Chicago, Illinois

Booth Nos. 85-86 Texas Building

Exhibit: Rotary Chains for Drilling, Hyper Chain, Link-Belt Vibrating Screen, Speed Reducers.

Representatives: Charles E. Markey, Charles Weiss, H. C. Wallace, George Howson, C. W. Spaulding, E. G. Wendell, George P. Torrance, F. S. O'Neil.

LION BROS. CO., INC.
Baltimore, Md., U. S. A.

Booth No. 23 Refiners and Marketers Building

Exhibit: A complete assortment of embroidered emblems such as used by the oil distributing companies to advertise their trade mark on their employees uniforms.

Representatives. G. W. Rosenbush, Albert Lion, Jr.

E. J. LONGYEAR COMPANY
Minneapolis, Minnesota

Lot G

LUCEY PRODUCTS CORPORATION
Tulsa, Oklahoma

Open Space Lot R

LUFKIN FOUNDRY AND MACHINE COMPANY
Lufkin, Texas

Representatives: W. C. Trout, vice president and general manager; C. B. Edwards, treasurer; W. W. Trout, Mid-Continent sales representative; W. D. Winston, Jr., secretary; R. W. Noble, field man; L. J. Maxwell, field man; A. E. Cudlipp, sales manager.

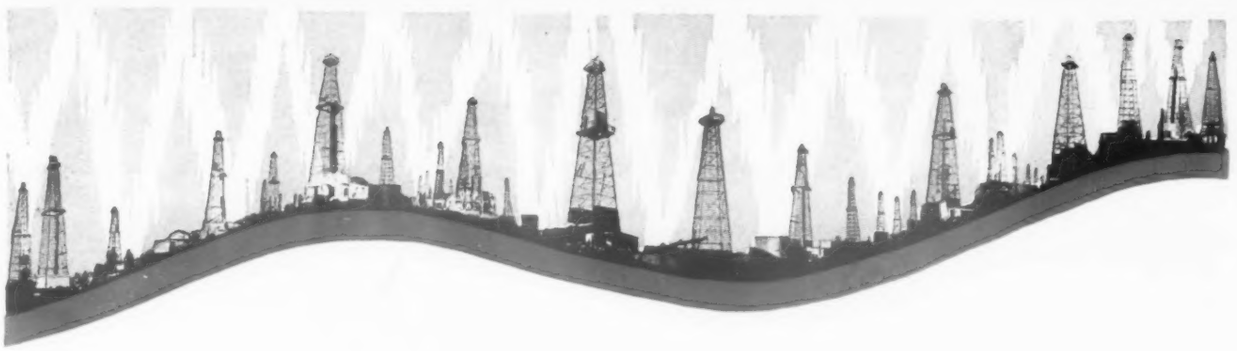
THE LUNKENHEIMER COMPANY
Cincinnati, Ohio

Booth Nos. 130-131 Oklahoma Building

Exhibit: The Lunkenheimer Company is showing a representative line of their products for use in the petroleum industry. The exhibit will include bronze, iron and steel valves, boiler mountings, lubricating devices and other engineering specialities for all pervailing pressures and temperatures. Of especial interest is the popular general service "King-clip" Gate Valve, the new Lunkenheimer Lubricated Rotor Valve, and a line of boiler mountings for 350 pound W. S. P. oil country boilers.

Representatives: Mr. Harry A. Burdorf, sales manager, from Cincinnati offices, will be in charge of the exhibit. He will be assisted by Messrs. H. P. MacGregor of Cincinnati, Jos. Waldeck of St. Louis, M. N. Stickel of Houston, and Elmer Tieberman of Wichita Falls, Texas.

McALEAR MANUFACTURING COMPANY
Booth Nos. 39-40-65-66 California Building



IDECO

Leaders in

STEEL DERRICKS,

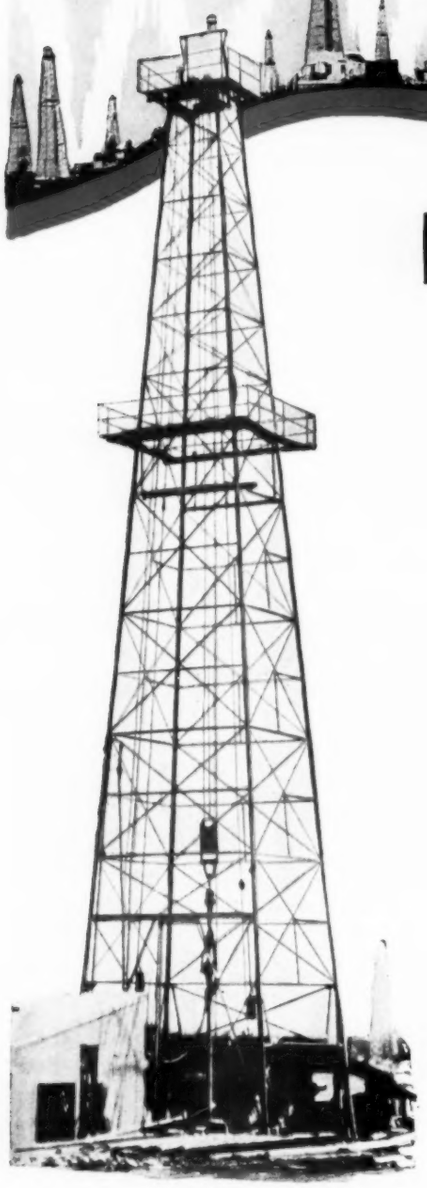
DRILLING & PUMPING

EQUIPMENT

THE INTERNATIONAL DERRICK & EQUIPMENT COMPANY
BOYKIN
IDECO
LEIDECKER
COLUMBUS, OHIO. MARIETTA, OHIO. LOS ANGELES, CALIF. BEAUMONT, TEXAS. U.S.A.

See Our Exhibit at Exposition

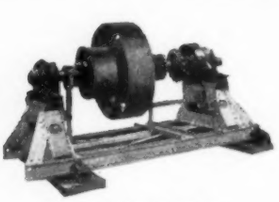
IDECO products



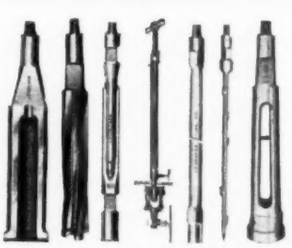
IDECO DERRICKS

of Galvanized Structural Steel

Research experiments and years of usage in the oil fields of the world have combined to produce IDECO Derricks of the highest working efficiency. Incorporating strength, rigidity, a minimum number of parts, a variety of sizes and weights for every type and class of drilling or pumping use, and performing all classes of work under the most severe conditions, IDECO Structural Steel Derricks, Galvanized, are unsurpassed and have never been successfully imitated.



Ideco Roller Bearing Reversible Jack Shaft



Ideco-Leidecker Drilling and Fishing Tools

Ideco Steel Wheels for every drilling and production use.

NEW IDECO ROTARY EQUIPMENT

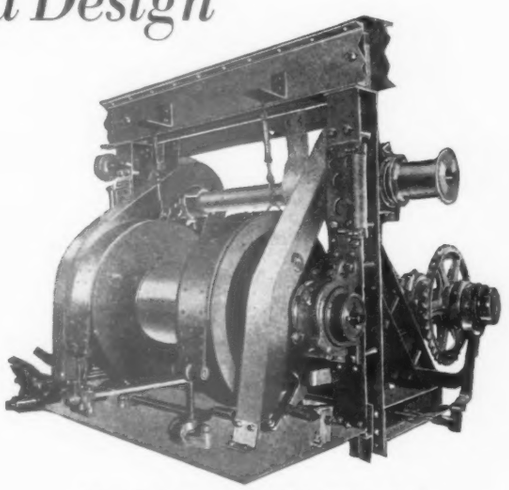
for the Deepest Drilling

Matched Units—Advanced Design

IDECO-BOYKIN Rotary Equipment has for years had the confidence of the oil producers of many fields, giving satisfactory, uninterrupted service, made possible by a construction providing the maximum of strength, speed and stamina.

Anticipating still deeper drilling, IDECO has developed Derricks and a line of Rotary Equipment capable of drilling wells of 10,000 feet and more in depth.

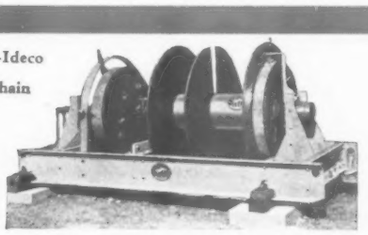
The same high quality of workmanship, simplicity of design, minimum number of parts, compactness and high mechanical efficiency which have always characterized Ideco products are evident in these units.



Ideco Four Speed, Two Post, Three Shaft Draw Works

Ideco 27½" Oilbath Straight Rotary with enclosed Table Bearings

Union-Ideco A.P.I. XX Chain



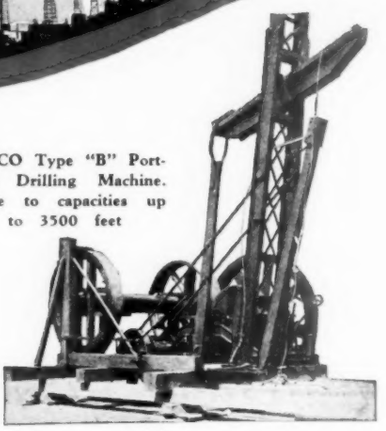
Ideco 50" Deep Well Water Cooled Chain Driven Sand Reel

Ideco 6" Swivel 150 ton capacity

Ideco Heavy Duty Straight Line Crown Block

Ideco 72" Heavy Duty Traveling Block

IDECO Chain Rig
For Cable Tool Drilling and Deep Well Pumping Service. Furnished with proper speed reduction unit for steam, gas or electric drive.



IDECO Type "B" Portable Drilling Machine. Made to capacities up to 3500 feet

The IDECO Line is Complete

IDECO Geared Unit
For the heaviest oil field requirements—reworking, pumping, pulling rods and tubing, bailing and swabbing.

The above units are shown with Ideco All Steel Welded Walking Beam, Ideco Pitman and Ideco Crank Counterbalance

IDECO has developed its line of oil field drilling and pumping equipment to one of completeness and efficiency. IDECO can put the Drilling Derrick over your location and the complete drilling equipment on your floor, from Rotary and Tools to Crown Block. Once ready for pumping, you can choose an IDECO Unit to best suit the needs of your locality and condition.

IDECO has helped pioneer—has built a world-wide service—maintains a staff of engineers and metallurgists who are constantly incorporating improvements of design and metal in our products—building oil field equipment which we honestly believe cannot be equalled.

True economy lies in permanency and that spells IDECO.

THE INTERNATIONAL DERRICK & EQUIPMENT CO.

Columbus, Ohio Marietta, Ohio Beaumont, Texas Los Angeles, Calif.

Plants: Columbus, Marietta, Delaware, Ohio; Torrance, California; Beaumont, Houston, Texas. *District Offices:* New Yrok City, N. Y.; Wichita, Kansas; Tulsa, Oklahoma; Shreveport, Louisiana; Fort Worth, Beaumont, Texas; Maracaibo, Venezuela. *Warehouses and Stocks:* Columbus, Delaware, Ohio; Seminole, Tonkawa, Drumright, Okemah, Maud, Sasakwa, Allen, Oklahoma; El Dorado, Wichita Heights, Kansas; Houston, Beaumont, Big Spring, Odessa, Pyote, Pampa, Borger, Mexia, Luling, Wichita Falls, Grand Saline, Seguin, Hebbronville, Pettus, Beeville, Texas; Lake Charles, Shreveport, Zwolle, Louisiana; Smackover, El Dorado, Arkansas; Bakersfield, Taft, Torrance, California; Hobbs, New Mexico.

Export Offices: 90 West Street, New York City; Columbus, Ohio; Houston, Texas; Los Angeles, Calif.

McCAMPBELL AND COMPANY
New York City

Exhibit: Uniforms for Filling Station attendants.
Representatives: Robert S. Dempsey, Kenneth C. Rogers.

MacCLATCHIE MANUFACTURING COMPANY
Compton, California

Booth No. 110 Oklahoma Building
Exhibit: MacClatchie All-Steel Rotary Hose (never before shown), MacClatchie Automatic Water Feed Regulator for boilers, MacClatchie Geared Brake for Draw-works, MacClatchie Rotary Under-reamer, MacClatchie Automatic Safety Cathead, MacClatchie Quick Change Cement Head, MacClatchie Mud Pump Valves and parts, MacClatchie Lubricated Stopcocks, MacClatchie Flow Nipple and Beans, MacClatchie Valve Seat Puller, MacClatchie Pump Liner Puller, MacClatchie Quick Unions.
Representatives: A. O. Nelson, Mid-Continent manager; J. F. Fowler, Jr., Charles T. Okey, C. F. Whaley.

McEVERLAST, INCORPORATED
Los Angeles, California

Booth Nos. 36-37 Oklahoma Building

A. J. McEWAN & COMPANY
Tulsa, Okla.

Lot A with Clark Brothers

J. H. McEVOY AND COMPANY
Houston, Texas

Lot "K" Outside.

MACK INTERNATIONAL MOTOR TRUCK CORPORATION
Tulsa, Oklahoma

30x30 feet Space in Block "E."
Exhibit: One Model AP Six-Cylinder Six-Wheel Heavy duty Mack Truck, One Model BG Six-Cylinder Mack Truck, Two Parts Panels showing Mack BG Parts.
Representatives: Mr. C. E. Craddock, vice president, Dallas, Texas; Mr. John L. Wilson, manager national accounts, Dallas, Texas; Mr. D. A. Bowen, branch manager, Tulsa, Oklahoma.

MAGEE PFEIFFER COMPANY
Chicago, Illinois

Open Space, Lot R

MAGNETO IGNITION CORPORATION
Open Space, Lot F

MAHAN McCARTY & BESSE, INC.
Tulsa, Oklahoma

Booth No. 30 California Building
Exhibit: Derrick Parts.
Representatives: Mahan, Frank M., Besse, Carl H., Wilmoth, H. D., McCarty, Earnest.

MALONEY TANK MFG. COMPANY.
Tulsa, Oklahoma

Booth No. 14 Refiners and Marketers Building
Exhibit: Bolted Steel Tank.
Representatives: J. S. Warren, R. A. Maloney, J. C. Highfill, W. H. Elliott.

THE MARSHALL SUPPLY COMPANY
Tulsa, Oklahoma

Booth No. 56 Refiners and Merchants Building
Exhibit: Dodge Manufacturing Corporation—Transmission, Alexander Brothers Inc.—Belting.
Representatives: A. D. Dunlop, W. P. Marshall, Jr.

MARTIN DECKER CORPORATION
Long Beach, California

Booth No. 68 Texas Building
Representative: E. L. Decker.

MARTIN & SCHWARTZ
Buffalo, New York

Exhibit: Positive Displacement Double Piston Type Meter Pump Card Sign Insert.

MASON REGULATOR COMPANY
Boston, Mass.

Booth No. 23 Oklahoma Building
Exhibit: Liquid Level Controllers; both pilot operated and direct operated Pump Pressure Regulators; Back Pressure Valves; pilot operated Air Controlled Regulators; Boiler Fuel Governors; Pressure Reducing Valves.
Representatives: Frank A. Morrison, Eldon Macleod, F. Kenneth Morrison.

THE MEDART COMPANY
St. Louis, Missouri

Booth No. 12 Texas Building
Representatives: W. G. Kessling, J. W. Royer.

MERCO NORDSTROM VALVE COMPANY
San Francisco, California

Booth No. 59-40-65 and 66 California Building
Jointly with the McAlear Mfg. Co., and B. V. Emery & Company.
Exhibit: Standard Semi-Steel Lubricated Plug Valves, 150 pounds, 250 pounds and 500 pounds Working Pressure, Cast Steel Lubricated Plug Valves, Series 15—30—40 and 60, Venturi Type Lubricated Plug Valves, Remote Control Lubricated Plug Valves.
Representatives: Campbell, Thos., Emery, B. V., Emery, W. D., Greene, G. E. S., Hammett, F. W., Hanson, R. W., Madison, C. K., Rogers, E. D., Scherer, G. F.

THE MERIAM COMPANY
Cleveland Ohio

Booth Nos. 39-40-41-42 Scientific and Technical Building

METRIC METAL WORKS
Erie, Pennsylvania

Booth Nos. 39-40-41-42 Scientific and Technical Building

MICHIGAN VALVE & FOUNDRY CO.
Detroit, Michigan

Booth No. 11 Oklahoma Building
Exhibit: High pressure Plug Valves both lubricated type and non-lubricated type for high temperature work; samples of Meehanite Metal which is metal from which the valves are made. Trade name of these valves Michigan "SCREW LIFE" Plug Valves.
Representatives: Arch. F. Campbell, Tulsa office; Geo. N. Belser, Tulsa office; R. J. Goldie, vice-president and general manager Detroit, Michigan; Eldon S. Clark, chief engineer Detroit, Michigan.

MID-CONTINENT OIL & GAS ASSOCIATION, SAFETY COUNCIL
Tulsa, Oklahoma

Booth Nos. 20-21 S. and T. Building

MID-CONTINENT PETROLEUM CORPORATION
Tulsa, Oklahoma

Booth Nos. 28-29 B. and M. Building

THE MID-CONTINENT SUPPLY COMPANY
Booth No. 60 Texas Building

MIDLAND CHAMBER OF COMMERCE
Midland, Texas

Booth No. 13 Arcade Building

MILWAUKEE TANK WORKS
Milwaukee, Wisconsin

Booth No. 12 Refiners and Marketers Building

MINE SAFETY APPLIANCES COMPANY
Pittsburgh, Pennsylvania

Booth No. 34 Scientific and Technical Building
Exhibit: The Mine Safety Appliances Company, will, as usual, show a complete line of Safety Equipment for the Petroleum industry. One of the features of their exhibit will be an extensive array of respiratory and protective equipment, including the Permissible M-S-A Combination Hose Mask and M-S-A Tank Gaugers Mask, which have recently been officially approved by the United States Bureau of Mines. The former is widely used by the oil industry, especially by men who must enter or work

UNDER PERFECT ALONG ~ *Darling*

Many millions of barrels of oil find their way from the oil fields to the refineries and many millions of cubic feet of gas are distributed to distant points through pipe lines controlled by Darling Gate Valves.

The experts in charge of both production and distribution know Darling Valves can always be depended upon to open easily and close tightly —all anyone expects of a valve. But it takes a Darling to satisfy those who also demand simplicity and long wearing quality.

Simplicity of design, few moving parts which are

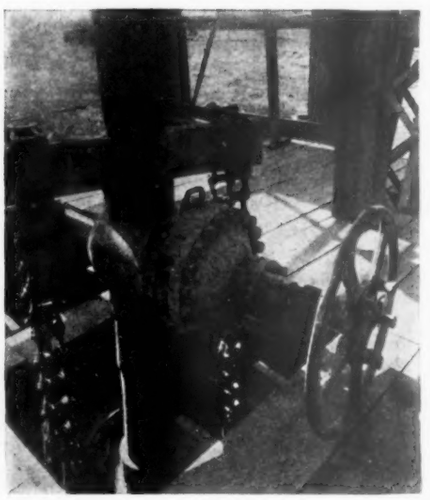
Darling Valve &

Williamsport,

NEW YORK LOS ANGELES

Mid-Continent Distributors:

Frick-Reid Supply Corp. International Supply Co.



The valve at the right is operating on a well which has a 28,000,000 cubic foot volume and 1540 lbs. rock pressure.

DARLING ~

CONTROL THE *ENTIRE ROUTE*

Valves for Pipe Lines

interchangeable, and unusually sturdy construction, give Darling Gate Valves those EXTRA years of trouble-free service so essential for really economic cross-country transportation and distribution of oil or gas.

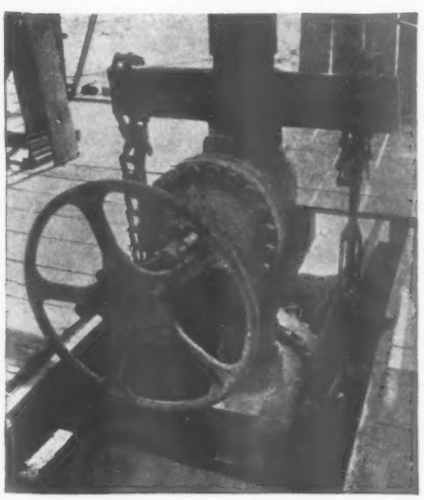
Catalog No. 15 contains complete details of Darling Gate Valves for drilling, refinery and pipe line service. A study of this book will make clear the reasons for Darling Valve popularity.

Manufacturing Co.

Pennsylvania

OKLAHOMA CITY HOUSTON

Foreign Sales Manager: H. M. HEIN,
Room 1405, 152 West 42nd Street, New York, N. Y.



The valve at the left is operating on a well with 70,000,000 cubic foot volume and a 1750 lb. rock pressure.

GATE VALVES

in oil vats or tank cars where oxygen deficiency or high concentration of gas may exist. In addition to many other forms of masks, the Mine Safety Appliances Company will show the Approved Oxygen Breathing Apparatus, Edison Electric Safety Cap Lamp, Gas Detectors and Recorders, H-H Inhalator for resuscitation, Miscellaneous Protective Safety Clothing and various First Aid Materials, such as First Aid Kits, Hot Pads, Surgical Dressings, etc.; also, the new M-S-A Protective Hats and Caps for preventing head injuries.

Representatives: E. H. Kellogg, sales manager, Pittsburgh; J. B. Davies, assistant sales manager, Pittsburgh; George L. Seth, assistant sales manager, Pittsburgh; H. W. Richards, sales representative, Tulsa.

MISSION SALES COMPANY
Houston, Texas

H, Outside.

MODERN ENGINEERING COMPANY
St. Louis, Missouri

Booth Nos. 93-94 Texas Building

Exhibit: Complete line of MECO Welding Equipment and Supplies for Welding and Cutting, Special Exhibits or demonstrations, MECO Multi-Seat Regulators, MECO Mono-Seat Regulators, MECO Super X Pipeline Torches.

Representatives: A. J. Fausek, I. F. Fausek, John J. Keane.

JOHN MONCRIEF COMPANY, LTD.
Perth, Scotland

Booth Nos. 35-36 California Building

MOORE BROTHERS COMPANY
Booth No. 71 Oklahoma Building

LEE C. MOORE & CO., INC.
Tulsa, Oklahoma

Booth Nos. 65-66 and Lot R with Sullivan Machinery Co. Oklahoma Building

MORRISON BROTHERS
Dubuque, Iowa

Lot R

MULTI METAL WIRE CLOTH CO., INC.
New York, N. Y.

Booth No. 56 California Building

Exhibit: A complete line of Wire Cloth and Metallic Filter Cloth used in Petroleum Refineries, embracing square mesh cloth from four meshes to 400 meshes per linear inch and metallic Filter Cloth up to 1000 wires per linear inch. The following metals are included: Brass, Copper, Phosphor-Bronze, Steel, Pure Swedish Iron, Aluminum, Everdur, Pure Nickel, Monel Metal and Enduro KA2. These screens are used on Gray towers used in Vapor Phase cracking, Percolating Filters, Contact Filtration and Flame Arresters. Especial attention is called to the screens of Enduro KA2, lately introduced, which are especially resistant to Hydrogen Sulphide, even under very high temperatures. The company maintains a special service department, which fabricates sectors for Gray Towers, complete blankets of any size for percolating filters and covers filter presses of any type.

Representatives: Frederick Stern, Lloyd M. Hopkins.

NATIONAL ASSOCIATION OF PURCHASING AGENTS
Booth No. 15 Scientific and Technical Building

H. M. Cosgrove, Secretary

NATIONAL CARBIDE SALES CORP.
New York City

Booth No. 31 Oklahoma Building

NATIONAL EQUIPMENT CORPORATION
Milwaukee, Wisconsin

Open Space, Lot 30 x 30 ft., Lot "C", Outside.

Representatives: H. R. Leland, E. R. Curry.

NATIONAL FOAM SYSTEM, INC.
Tulsa, Oklahoma

Booth No. 17 Oklahoma Building

NATIONAL LEAD COMPANY
St. Louis, Missouri

Booth Nos. 56-57 Oklahoma Building

NATIONAL PETROLEUM NEWS
Cleveland, Ohio

Outside Space

NATIONAL TOOL & METALS COMPANY
Los Nietos, California

Booth No. 63-64 California Building

NATIONAL TRANSIT PUMP & MACHINE CO.
Oil City, Pennsylvania

Block C, 10 x 15 ft.

NATIONAL TUBE COMPANY
Pittsburgh, Pennsylvania

Booth Nos. 24 to 29 Inclusive Oklahoma Building

Exhibit: Large O.D. Pipe showing 24" O.D.x5/16" National Rotary Rolled Seamless Pipe, 39 feet long. This being the largest seamless O.D. line pipe ever made in the United States. 24" O.D.x5/16" National Electric Weld Pipe, 40 feet long. The exhibit will also include a complete line of Oil Country Tubular Products. Several samples including National Special Alloy Casing, A.P.I. Casing, A.P.I. Special Alloy Interior Upset Drill Pipe, A.P.I. Oil Well Tubing, A.P.I. External Upset Tubing, etc., will be windowed to show joints.

Representatives: F. R. Braman, T. D. Davies, T. W. Gamble, J. B. Graham, C. W. Kennedy, F. A. Marsh, W. J. McKee, W. C. Moser, H. H. Muhlenberg, George Newman, A. J. Powers, W. L. Schaeffer, E. P. Shoupe, E. E. Smith, T. W. Thorne, Hugo Weidmann, J. J. Wilson, E. L. Wycoff, F. O. Young.

THE NATIONAL SUPPLY COMPANY
Booth Nos. 88-89-122-123 Texas Building

Representative: R. W. Gordon.

NATIONAL TANK COMPANY
Tulsa, Oklahoma

20x30 feet, Lot B-Booth 51 Texas Building

Exhibit: Various sizes of National Oil & Gas Separators, including the new Type "C" National Separators. Separator equipment and controls with several new features in separator control. The National Automatic Air-Gas Lift Intermitter with some new designs in intermittent remote control. Some new tank equipment will be shown along with regular National Tank Company.

NAYLOR PIPE COMPANY
Chicago, Illinois

Booth Nos. 20-21 Oklahoma Building

Exhibit: Naylor Spiralweld Toncan Iron Pipe.

Representatives: E. W. Hough, Chicago, Illinois; A. S. Feild, Chicago, Illinois; L. S. Allen, Tulsa, Oklahoma; E. C. Kirby, Fort Worth, Texas.

NEILAN COMPANY, INC.
Los Angeles, California

Exhibit: Neilan Ball Bearing, Rotary Stem Motor Valve.

NEILAN VALVE & MACHINERY COMPANY
Tulsa, Oklahoma

Booth No. 4 California Building

NICHOLAS CLOCK COMPANY
Tulsa, Oklahoma

Booth No. 10 Scientific and Technical Building

NORDBERG MANUFACTURING COMPANY
Milwaukee, Wisconsin

Lot R with Page Oil Field Equipment Company

NORMA-HOFFMAN BEARINGS CORPORATION
Stamford, Connecticut

Booth No. 38 California Building

Exhibit: Ball, Roller and Thrust Bearings.

Representatives: Mr. H. J. Ritter, Assistant Secretary; Mr. D. E. Batesole, Assistant Engineering Manager; Mr. A. A. Van Pelt, Pittsburgh Representative; Mr. D. W. Robinson, Chicago Representative.

BRAUER SUPERIOR PRODUCTS

Swivel Circulating Head

The Brauer Swivel Circulating Head is especially adapted for use when it is inconvenient or impossible to use the regular swivel. Its light weight makes possible quick handling in case of breakdown.

An Insurance Against Stuck Drill Stem

In the event of getting "stuck" while making a trip the circulating head can be easily and quickly connected up and you can, by using slips, rotate and circulate until stem is free.

The Brauer Swivel Circulating Head is ball bearing and grease packed, only needing lubrication once or twice a year. Adjustment for wear is made by tightening the upper gland which is provided with holes for spanner or bar. The removal of this gland will permit all parts to be removed for repairs or replacement. The goose neck is threaded to order to fit any swivel connection desired.

Patented

Compounding Type Manifold Valve

The compounding type manifold valve is made especially for fields where it is necessary to compound your pumps.

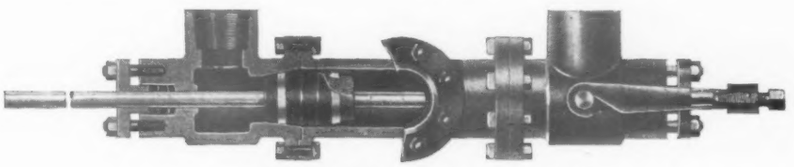
The plunger can be locked on either side by means of a set screw yoke which will permit the use of both pumps at the same time.

This valve is used in the manifold between your slush pumps and is for the purpose of automatically closing the discharge line of the pump not in use and diverting the flow of fluid up to the stand pipe.

By closing the steam valve on the pump that you have been using and opening the steam valve on the other, the fluid pressure automatically forces the double tapered plunger valve into the opposite seat and diverts the flow up through the stand pipe. These can be connected up in several different ways and we will be glad to furnish sketches showing them.

It can also be used as a manually operated valve between your stand pipe.

Positive in its operation.
Will not sand up under any condition.
Withstands any operating pressure.
Made of high grade cast steel.
Tongue and groove flanges.
Extra plunger valve shipped with each valve.
Packing dovetailed in place.



Manufactured under Beebe patent appl.

OTHER BRAUER PRODUCTS

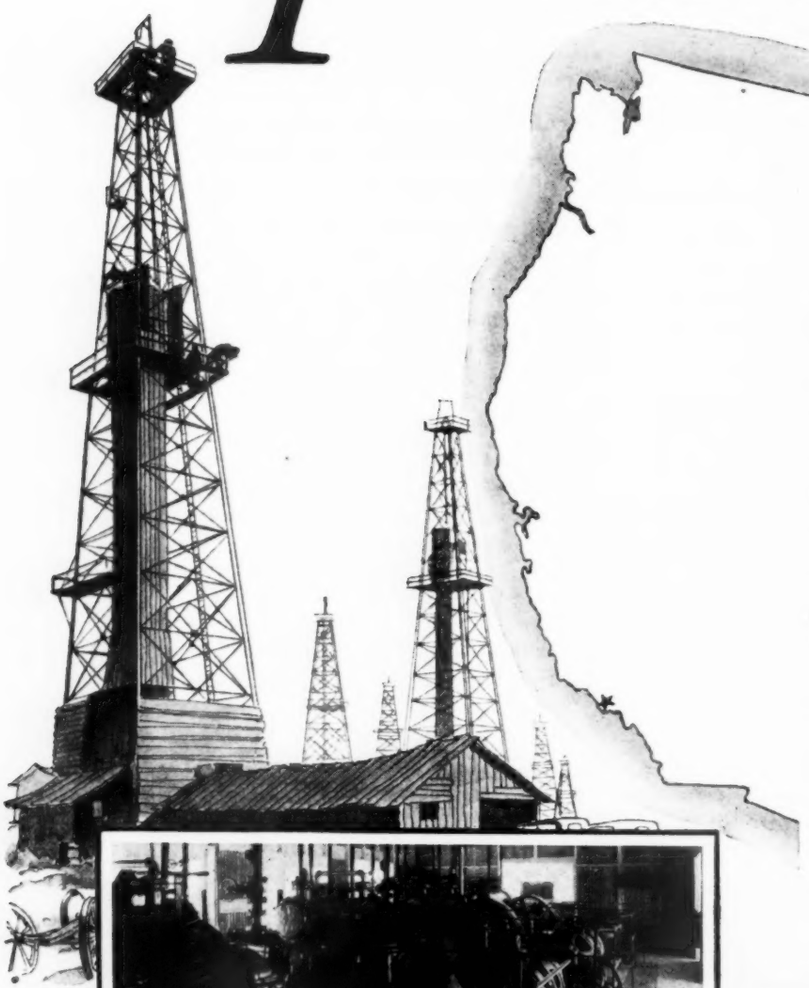
Stand Pipe Valve
Hydraulic Wall Hook
Shale Separator
Stand Pipe Goosenecks
Compound Brake Lever
Valve Seat Pullers
Elastic Safety Lock Nuts
Special High Pressure Fittings

Sold Through Your Supply Store

BRAUER MACHINE & SUPPLY CO.

OKLAHOMA CITY OKLAHOMA

From Long Beach



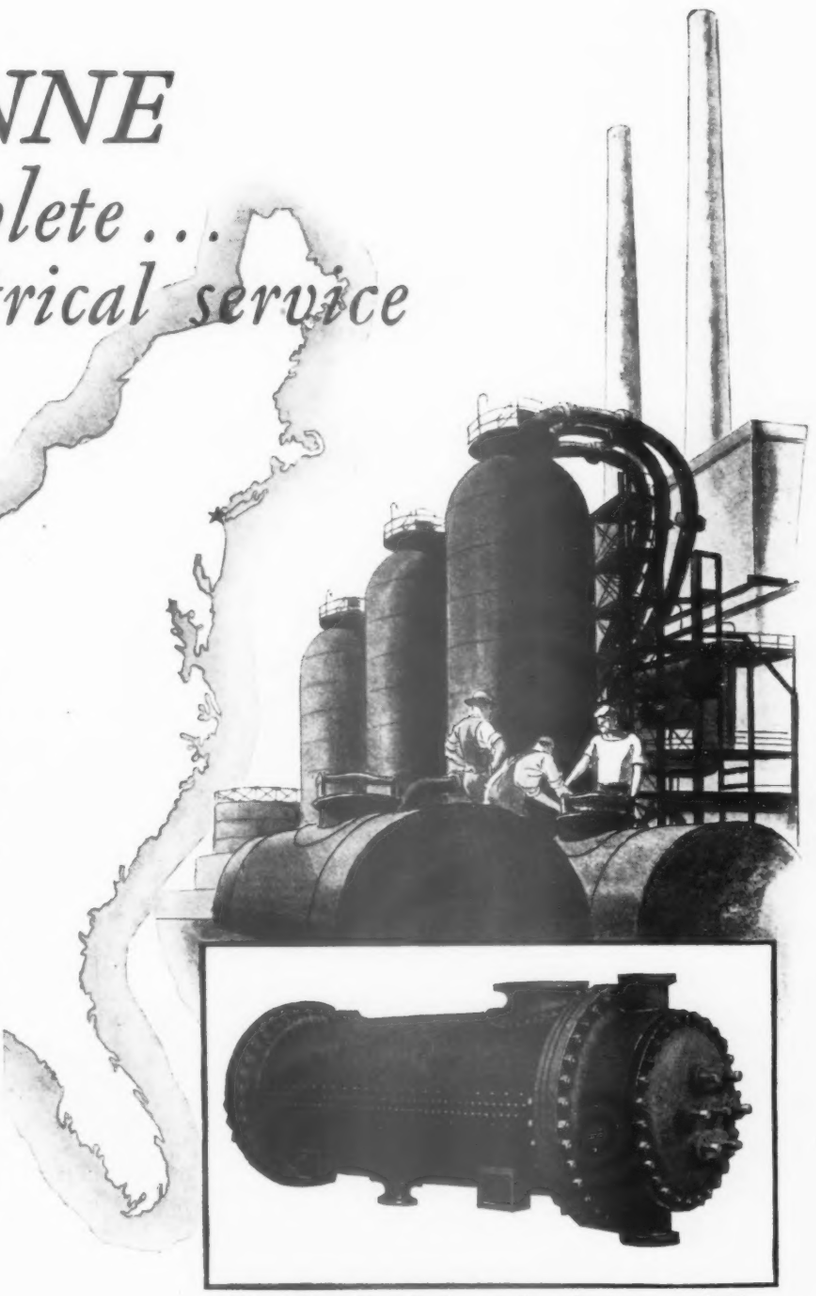
EAST, WEST, NORTH, AND SOUTH — the flow of oil from derricks to final delivery is aided by electricity. And wherever electrical supplies and technical assistance are needed . . . at drill pipe, pump, or cracking still . . . you will find Westinghouse ready with the most complete line and the finest engineering resources.

Westinghouse products include specific types of motors, control and gearing for every drilling, pumping, and refining operation . . . arc-welders for pipe line construction . . . heat exchangers for distillation processes . . . MAZDA lamps and lighting fixtures . . . and electric equipment for tank ships.

Compressor house for air-gas lift showing four 100-hp. Westinghouse Motors driving Ingersoll-Rand compressors at Long Beach, Calif.

Tank Ship J. W. Van Dyke, equipped with Westinghouse Diesel Electric Propulsion.

to BAYONNE
a complete... electrical service



Westinghouse representatives in the field are trained technical men, who maintain constant contact with the research work always being carried on within this organization for the improvement of electrical applications to industry.

Warehouse and service facilities at all principal distribution centers support the activities of The Oil Well Supply Company and The National Supply Companies in their representation of Westinghouse products. Complete information may be obtained from any branch of these organizations or from any Westinghouse office.

Westinghouse Heat Exchangers for refineries are available in sizes from very small units to those containing several thousand square feet of surface.

Service, prompt and efficient, by a coast-to-coast chain of well-equipped shops

Westinghouse

NORTH AMERICAN CAR CORP.
Tulsa, Oklahoma

Booth No. 10 — R. & M. Building

NORTHWEST ENGINEERING COMPANY
Chicago, Illinois

15′ x 30′, Lot N, Outside

NORTHWESTERN MANUFACTURING COMPANY
Milwaukee, Wisconsin

Right of Main Entrance

OAKITE PRODUCTS, INC.
New York, N. Y.

Booths No. 61-62 — Texas Building

WALTER O'BANNON COMPANY
Tulsa, Oklahoma

Booth No. 104 — Texas Building

Exhibits: Working Barrel Pumps and Parts—O'Bannon Liner Barrels; O'Bannon Valve Cups; O'Bannon Balls and Seats; O'Bannon Cro-Lay Barrels. Safety Sucker Rod Tools—O'Bannon Frontlock Hook; O'Bannon Sucker Rod Elevators; O'Bannon Polished Rod Clamps; O'Bannon S Links; O'Bannon Bell Nipples; O'Bannon Sucker Rod Sockets. Safety Tubing Tools—O'Bannon Tubing Hooks; Moody Automatic Tubing Spiders. Viking Rotary Pumps.

Representatives: Walter O'Bannon, Paul H. Wendel, Charles H. Bloom, Dewey Nichols, J. G. Linn.

THE O. C. S. MFG. COMPANY
Coffeyville, Kansas

Booths Nos. 8 and 9 — Oklahoma Building

Exhibit: Reception Booths for exploiting Universal Rig Fronts.

Representatives: J. W. McKenon, sales manager; C. B. Morton, District Manager; A. G. Evans Lombe, District Manager; W. P. Turner, F. D. Stanley, D. C. Myers, D. R. Brown.

OHIO PATTERN WORKS & FOUNDRY
Cincinnati, Ohio

Lot R

THE OHIO STEEL FOUNDRY COMPANY
Springfield, Ohio

Booth No. 9 — Refiners & Marketers Building

Exhibits: Ohiolock Frictionless Return Bends; Ohiolock Return Bends; Tube Supports—Fahrite Heat Resisting Alloy.

Representatives: Mr. W. J. Gilmore, Vice President; Mr. W. J. Hayes, Sales Manager; Mr. P. Y. Duffee, Refinery Engineer.

OIL CENTER TOOL COMPANY
Houston, Texas

Booths Nos. 51-52 — California Building

THE OIL CONSERVATION ENGINEERING CO.
Cleveland, Ohio

Booths Nos. 82 and 129 — Oklahoma Building

Exhibit: Conservation Vent Valves, Non-Sparking Gauge and Thief Hatches, and Non-Sparking Manhole Covers, Still Valves, Flame Arrestors, Automatic Tank Gauge, Two Bolt Pipe Couplings, Cylindrical Look Boxes, Bubble tower caps and trays.

Representatives: H. H. Fleming, Vice President and General Manager; H. W. James, W. H. McGunagle, J. D. Ashcraft.

OILDOM PUBLISHING COMPANY
Bayonne, N. J.

Open Space Lot

OILDRAULIC, INCORPORATED
Memphis, Tennessee

Booths Nos. 48-49-50 — Marketers & Refiners Building

Exhibit: 1 Oildraulic Drive-On Lift with 15″ Channels 15′ long, equipped with Oildraulite per photo attached. This is the most recent and modern appliance to the Automotive Lift Field, which gives 24 hours greasing service, allowing car to be serviced at night which is most convenient for the average driver. Bulbs are vapor proof; car can be washed at night with no danger. We will also exhibit Serv-Oil-liter, Oiliter, Display Rack, etc., for use in Oil Dispensing equipment.

Representatives: J. Frank Johnson, Memphis, Tenn.; L. C. Stukenborg, Memphis, Tenn.; J. P. Longon, Memphis, Tenn.; E. J. Peters, Memphis, Tenn.; Elmer Nall, Chicago, Ill.; Walter Johnson, Minneapolis, Minnesota; W. Hayes Sims, Tulsa, Oklahoma; Gordon Lee, Memphis, Tenn.

THE OIL & GAS JOURNAL
Tulsa, Oklahoma

Open Space Lot "X"

OIL FIELD ENGINEERING
Philadelphia, Pa.

Booths Nos. 38-39 — Oklahoma Building

THE OIL WEEKLY
Houston, Texas

18 x 18 feet Outside

Representatives: R. L. Dudley, A. L. Burns, S. W. Robinson, J. F. Carter, Grady Triplett, George Reid, Floyd Swindell, J. D. Isaacks.

OIL WEIGH METER COMPANY
Los Angeles, Calif.

Lot C

OIL WELL IMPROVEMENTS COMPANY
Tulsa, Oklahoma

Booths Nos. 51-52 — Oklahoma Building

Exhibit: High Pressure Packing Head Unit, All Purpose Control Head Unit, All Purpose Oil Saver, Type X "Lubricating In" Control Head, Apex Polished Rod Stuffing Box, Roller Oil Savers, Berry Pattern Casing Heads, Casing Head Tees.

Representatives: Alf G. Heggems, President; J. Burr Gibbons, vice president; Robert M. Lee and Ed Ligon, representatives.

OIL WELL SUPPLY COMPANY
Tulsa, Oklahoma

Booths Nos. 76-68-83-129 — Texas Building

OKLAHOMA GEOLOGICAL SURVEY
Norman, Oklahoma

Booth No. 28 — S. & T. Building

OKLAHOMA IRON WORKS
Tulsa, Oklahoma

Booths Nos. 31-32 — California Building

Exhibit: Complete line of forged steel fittings, also forged steel flange unions with metal gaskets in both the two piece and four piece types. Combination Casing Heads, Braden Heads, Casing Rings and Wedges and various types of forgings and castings will also be shown.

Representatives: Wm. Wright, R. W. Neal, Geo. Clark, and W. D. Taylor.

OKLAHOMA NATURAL GAS CORPORATION
Booth No. 71 — Oklahoma Building

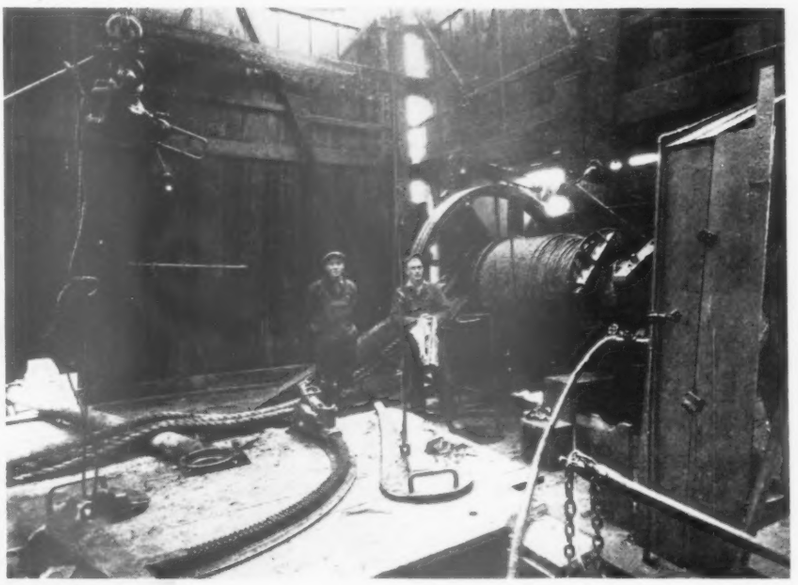
OKLAHOMA STEEL CASTINGS COMPANY
Tulsa, Oklahoma

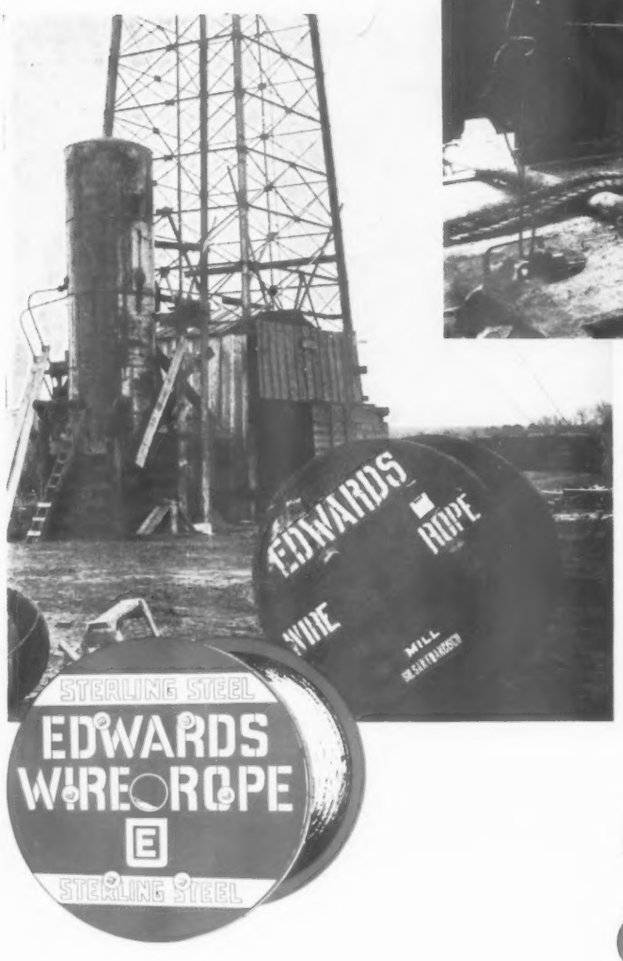
Booths Nos. 47 and 48 — Texas Building

Exhibit: The Oklahoma Steel Castings Company will exhibit a representative line of refined electric steel castings and alloy steel castings, such as are used by the oil industry and allied manufacturing interests. Included in the exhibit will be electric steel castings for rotaries, draw works, fishing tools, elevators, spiders, pumping equipment, derricks, rotary bits and reamers, gears, pinions and sprockets. Also high pressure castings such as valves and fittings. A complete line of alloy steel castings will also be shown, to illustrate the latest developments in this important branch, which has become of so much interest to the engineers in the oil industry.

Representatives: S. J. Moore, Sales Manager; E. H. Cornelius, President; B. Fleeger, Vice President; L. C. Baston, Secretary; Anton Johnson, Works Manager; E. M. Newland, Sales Department.

FROM THE





DISCOVERY WELL

« « « «

THROUGHOUT THE OKLAHOMA CITY FIELD

« « « «

E. H. EDWARDS COMPANY
Standard Oil Building,
San Francisco

» » » »

Mid-Continent Distributors
HINDERLITER TOOL COMPANY
Tulsa, Oklahoma

« « « «

EDWARDS WIRE ROPE

See the "Oscillograph" at the Edwards Booth
NO 25, TEXAS BUILDING

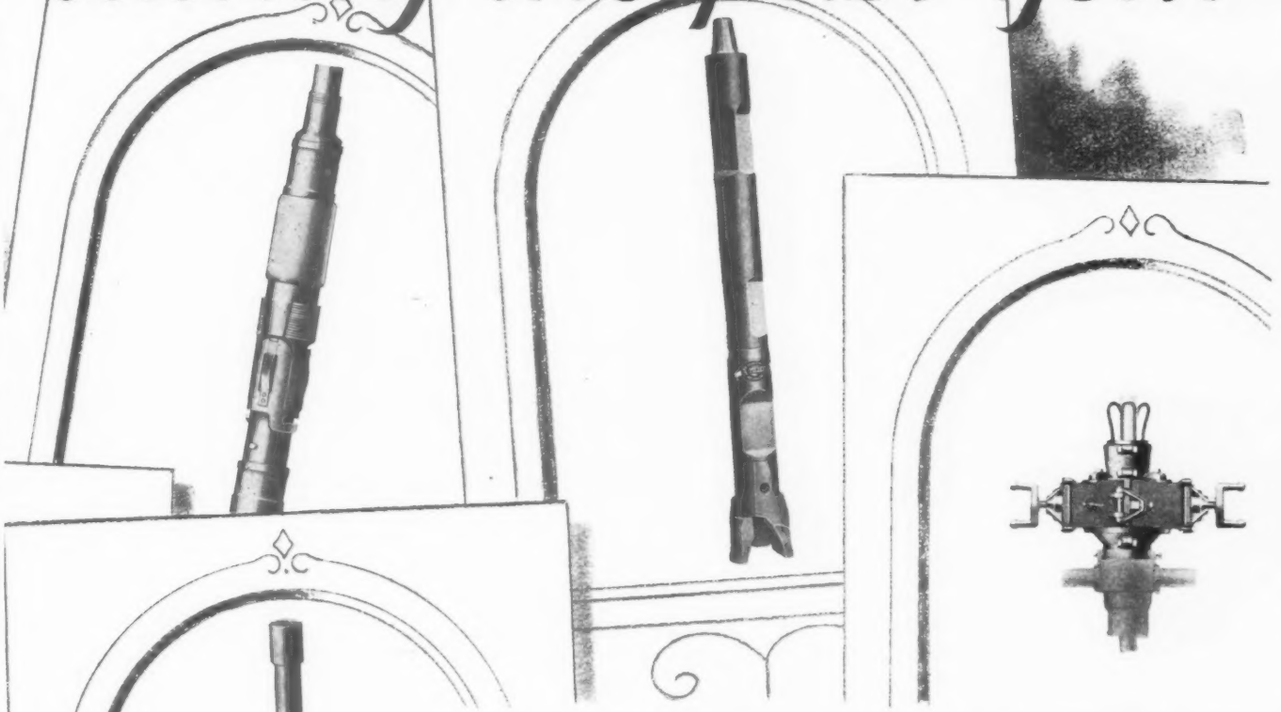
EDWARDS HAS BEEN SUPREME AMONG WIRE ROPES

An ALBUM *notable achievements*

"Better Be Safe Than Sorry"

THE GUIBERSON CORPORATION
Box 1106, Dallas, Texas
California Branch: 1506 Santa Fe Ave., Los Angeles,
621 Kennedy Bldg., TULSA
321 S. Osage Ave., PONCA CITY
506 Trust Bldg., NEWARK, O.

reviving memories of during the past year



THE GUIBERSON EXHIBIT

BOOTHS 116, 117, 118, OKLAHOMA BUILDING
★WITH THESE IMPORTANT ADDITIONS, SCHEDULED FOR GREAT PERFORMANCE

GUIBERSON DUPLEX CATCHER. Developed to meet the safety requirements of tubing in deep wells. Designed with a multiple of slips, one set above another, the slips oprating in unison and actuated by a common means. By this method the shock occasioned by the fall of a string of tubing is effectually distributed over a much greater area of the casing circumference than is possible with a single headed Tubing Catcher and the possibility of distortion to the casing reduced to an absolute minimum.

GUIBERSON WIRE LINE OIL SAVER. New heights of efficiency, economy and simplicity of operation. Rubbers brought toge.her evenly and with equal pressure, insuring perfect pack-off, avoiding uneven rubber wear and prolonging life of rubbers. Removable roller caps and rollers, removed without disturbing any other part of saver. Bottom rubbers seal fluid while upper rubbers are being changed. Mere touch of the crank handle by the toe of the foot is sufficient to pack off against the highest pressures.

GUIBERSON HIGH PRESSURE OIL SAVER. Developed primarily to handle long strings of tubing on deep wells where pressures are considerably greater than in shallow holes.

SEE THEM AT OUR EXHIBIT

GUIBERSON

BETTER BE SAFE THAN SORRY

OLIVER APPLIANCES OIL ENGINEERING CO.
Chicago, Illinois
Booths Nos. 65-66 Texas Building

THE OSTER MANUFACTURING CO.-WILLIAMS TOOL CORPORATION
Cleveland, Ohio
Booths Nos. 1-2-3 Arcade Building
Exhibit: The complete line of Oster and Williams hand and power operated pipe and bolt threading machinery.
Representatives: Harry Liehr, in charge; A. S. Gould, L. K. Warman, J. W. Wells, H. C. Gardner.

OXWELD ACETYLENE COMPANY
New York City, N. Y.
Booths Nos. 18-19-20-21 Texas Building

PACKARD ELECTRIC COMPANY
Warren, Ohio
Open Space, Lot F

PAGE OIL FIELD EOUIPMENT
Oklahoma City, Oklahoma
Lot R
Representatives: H. W. Page, H. A. Laurence, Geo. L. Campbell, W. L. Forster, Louis G. Valdes, Paul W. Eells, C. W. Pendock, J. R. Frantz, Allen Bartlett, George Moore, E. Rahn, J. Huber, Wm. Quest, John Fry, Victor Sanders, Clyde M. Becker.

THE PALM BROTHERS DECALCOMANIA CO.
Chicago, Illinois
Booth No. 5 California Building
Exhibit: A complete display of Decalcomania Transfers used in the Oil Industry.
Representatives: Mr. C. M. Graham will be in charge of booth.

THE PARKERSBURG RIG AND REEL CO.
Parkersburg, W. Va.
Booths Nos. 74 and 75 Texas Building
Exhibit: A complete steel Rig; 122′ Parkersburg A.P.I. Derrick; Chain Driven Rig Front; Type 70 A. Double Brake Sand Reel for 7000 foot operations; Steel "A" Frame Sampson Post and Jack Posts; Parkersburg ICR Type steel Walking Beam with center rocker; Roller Bearing Crown Block; All steel Band Wheel; Set of heavy Bull Wheels and Calf Wheels.
This display at the Parkersburg Derrick location on the grounds.

PARSONS COMPANY
Newton, Iowa
Open Space Lot 30′ x 30′, Lot C Outside

PATTERSON-BALLAGH CORP.-REIBER INSTRUMENT CORP.
Los Angeles, California
Booths Nos. 6-7-8-9 California Building
Exhibit: Bettis Protectors; Bettis Drill Stabilizers; Rieber Surveying Instrument.
Representatives: J. C. Ballagh, H. M. Taylor, H. C. Armington, W. S. Fellows, R. H. Bettis.

THE PAXTALL COMPANY
Cranford, N. J.
Booth 30′x40′ Open Space Lot, Block L

PEERLESS SUPPLY CO.
Tulsa, Okla.
Booth Nos. 118-119 Texas Building
Exhibit: McKissick Safety Tubing Blocks; McKissick BB Universal Swivel Beckets; Peerless All Steel Load Binders; Peerless Speed Jacks; Peerless Stuffing Boxes; McKissick Tubing Bleeder and Standing Valve; Peerless Bronze Sucker Rod Guides; Smith Lifetime Welding and Cutting Equipment.
Representatives: W. H. McKissick, C. F. King, O. M. Smith, W. D. McKinley, Leo Haubert.

HENRY PELS & CO. INC.
New York, N. Y.
Booth Nos. 46 and 47 Oklahoma Building
Exhibits: Two Combination Punching, Shearing and Coping machines for iron and steel work, plant maintenance and machine shop use. Both machines in operation. One machine is TYPE MAE-16 with capacity to: Cut angles, square 4½x4½x½″ or 6x4x⅜″; cut angles on mitre 4x4x⅜″; cut rounds 2⅛″; cut squares 1-7/8″; split plate 5/8″; cut flats 6x¾″; punch holes 1-1/16″ through 5/8″ or 7/8″ through ¾″; notch with one stroke, angles, 3x3x⅜″. Other machine is TYPE ME-10 with capacity to: Cut angles, square 3x3x⅜″; cut angles on mitre 2½x2½x¼″; cut rounds 1-½″; cut squares 1-3/8″; split plate 3/8″; cut flats 4¾x½″; punch holes 1″ through ⅜″ or ¾″ through ½″. Copes angles, etc., up to a thickness of ¼″, width of cut up to 2″, depth of cut up to 3⅜″.
Representatives: Mr. G. W. Thorbahn, Mr. J. A. Weigand. Mr. G. H. Blackman and Mr. Arlington Nuetzel representing Blackman-Hill & Co. of St. Louis, Mo. (District representatives).

PENNSYLVANIA CAR COMPANY
Sharon, Penn.
Booth No. 19 California Building

PENNSYLVANIA TANK LINE
Sharon, Penn.
Booth No. 19 California Building

PERFECTION MFG. CO .
Minneapolis, Minn.
Booth No. 64 R. & M. Building

PERMUTIT COMPANY
New York City
Booth No. 15 Texas Building

PETROLEUM ELECTRIC COMPANY
Tulsa Oklahoma
Booth No. 55 California Building

PETROLEUM ENGINEER
Tulsa, Oklahoma
Booth Nos. 34 and 35 Texas Building

PETROLEUM ENGINEERING, INC.
Tulsa, Oklahoma
Booth No. 4 California Building
Exhibits: An experimental Absorber will form the central object of the exhibit, having three trays, each of which will be equipped with a different type of bubble cap. Each cap will be an example of the cap used in actual service to meet different problems in fractionation of absorption. A light absorber oil and some form of gas will be circulated through the absorber which will have a glass wall, enabling one to study the action created in passage over the trays. We expect to have working models of bubble trays. The wall space surrounding the exhibit will be used as a background for photographs of plants and equipment constructed this year.
Representatives: Paul M. Raigorodsky, F. Van Acker, C. E. Wharton, P. C. Tucker.

THE PETROLEUM IRON WORKS COMPANY
Sharon, Pennsylvania
Booth No. 19 California Building

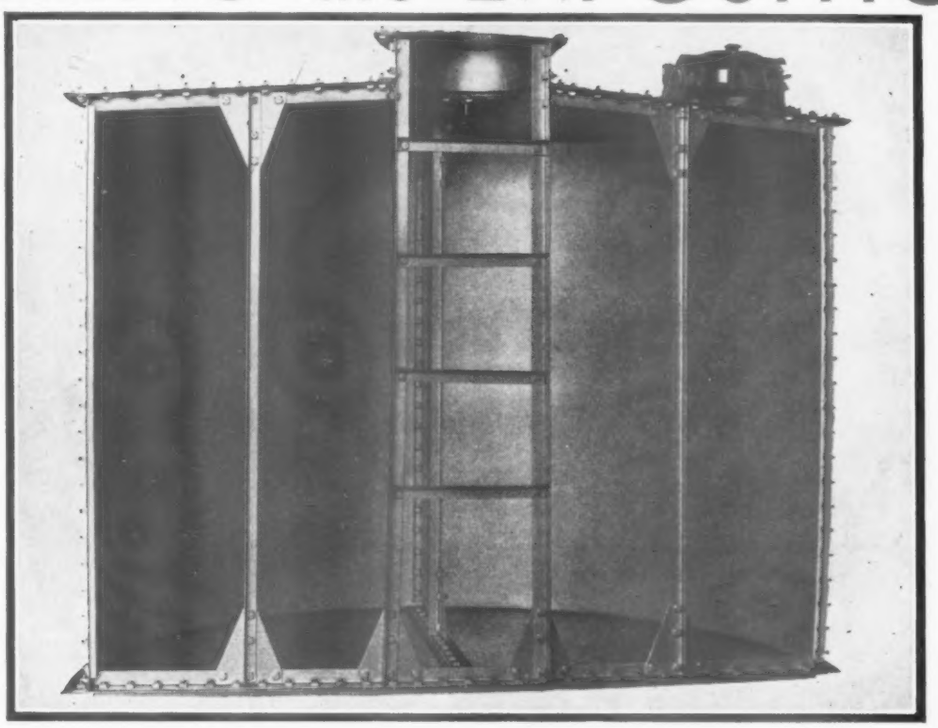
VICTOR L. PHILLIPS CO.
Tulsa, Oklahoma
Booth Lot D

PITTSBURGH EQUITABLE METER CO.
Pittsburgh, Pennsylvania
Exhibit: Orifice Meters, Water Meters, Oil Meters, Gasoline Meters, Valve Regulators, Gas Meters, Emcorector.

PITTSBURGH SCREW & BOLT CORPORATION
Booth No. 1 and 2 Texas Building

PITTSBURGH STEEL PRODUCTS CO.
Pittsburgh, Pennsylvania
Booth No. 69 Texas Building
Exhibit: Milled out sections of Standard A. P. I. Casing and High Tensile Casing, Drill Pipe, Still Tubes. Specimens of formed tubes.
Representatives: C. V. Lally, general manager of sales;

DURING the EXPOSITION



MADE OF KEYSTONE AMERICAN

SEE us at Booth 14, Refiners & Marketers Building and examine the model showing the design and construction of MALONEY *Vapor-Pressure* Tanks.

STUDY the Automatic Pipe Line Pumping Station on the Exposition grounds . . . note the MALONEY tanks.

VISIT our plant at 108 North Peoria Avenue, Tulsa, where MALONEY Bolted Steel Tanks are manufactured.

◆ ◆ ◆

MALONEY TANK MFG. CO.

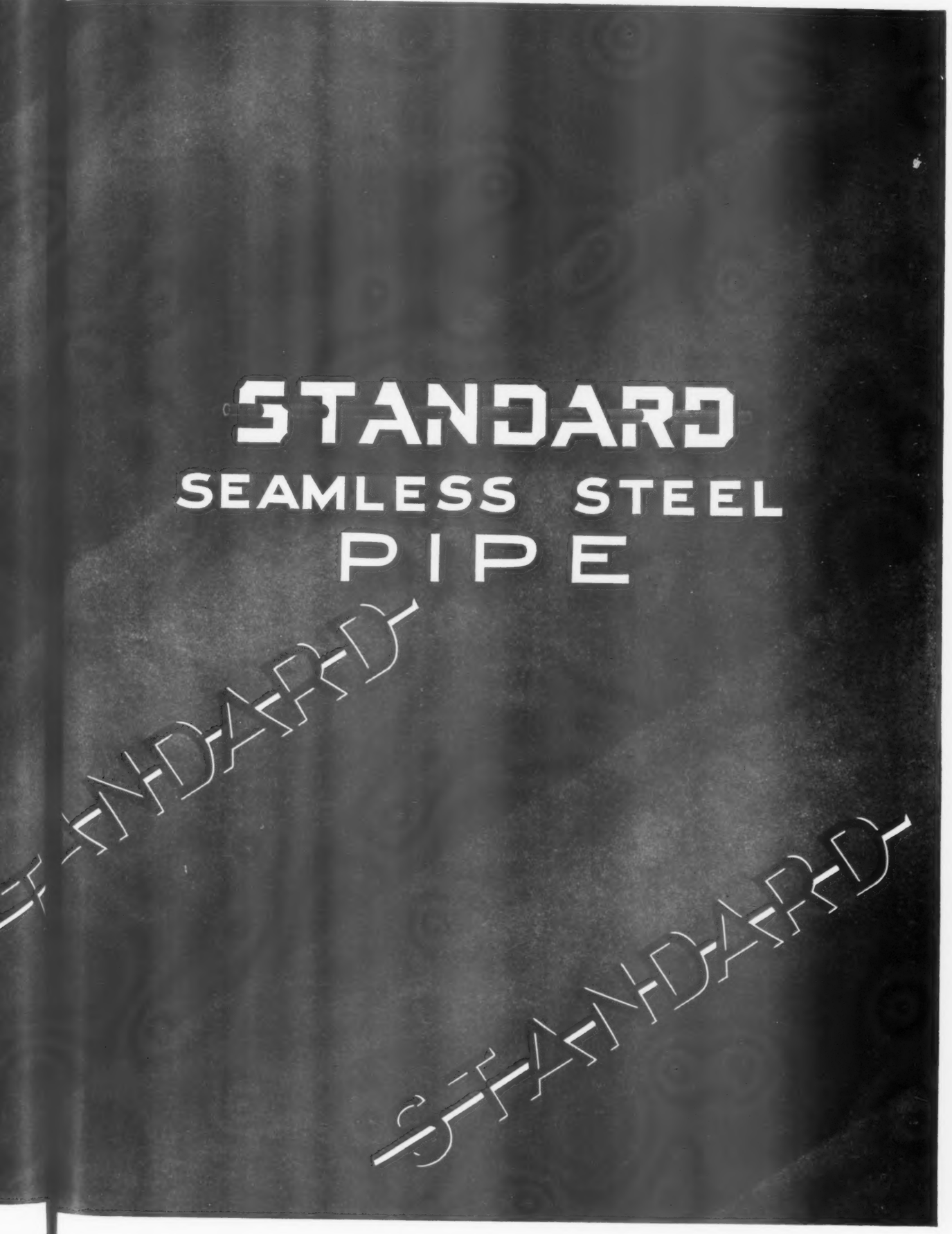
TULSA, OKLA., U. S. A.

Distributers at All Principal Petroleum Points

MALONEY

MALONEY PATENTED BOLTED COPPER-STEEL TANKS

SPANG
SPANG
WELDED STEEL
PIPE
SPANG
SPANG, CHALFANT & CO., INC.
General Offices: Clark Building, Pittsburgh, Pa.
Sales Offices: Chicago, Ill. New York, N. Y. St. Louis, Mo. Pittsburgh, Penna.
Tulsa, Okla. Los Angeles, Calif.
Mills: Etna, Penna. Sharpsburg, Penna. Ambridge, Penna.


STANDARD
SEAMLESS STEEL
PIPE
STANDARD
STANDARD

Elmer T. Wible, advertising manager; S. E. Elder, Tulsa office; A. S. Vandervoort, Houston office manager; Morvin Thomas, St. Louis office manager.

PODBIELNIAK ANALYTICAL AND RESEARCH LABORATORIES
Tulsa, Oklahoma

Booth Nos. 11 and 12 Scientific and Technical Building

Exhibit: Podbielniak Fractional Distillation Analysis Apparatus; Precision Type Fractionating Columns and Manometers; Regular Type Fractionating Columns; Sample of glass-blowing and scientific glass apparatus construction. Wall exhibits including photographs, diagrams, charts and tables explaining the analytical services furnished by the laboratory as well as its research and consulting service. For the first time at this exposition there will be exhibited the Precision Type Columns and Manometers as above mentioned; also a novel feature of the exhibits will be semi-automatic operation of the Podbielniak apparatus.

Representatives: Walter J. Podbielniak, Herbert R. Kaiser (analyst).

PORTABLE RIG COMPANY
Houston, Texas

Booth No. 80 Oklahoma Building

JOHN POWELL & CO.
New York City

Booth No. 22 R. & M. Building

THE WM. POWELL CO.
Cincinnati, Ohio

Booth Outside Space, Lot C

Exhibit: A complete line of bronze, iron and steel Globe, Angle, Check, Gate and Safety Valves. Also Oilers, Lubricators, Grease Cups, Gauges and other oil country equipment. We will feature the new "Master Pilot" Gate Valve, a new iron body gate valve in small sizes, designed to meet a specific need in the oil industry. Made in screwed or flanged ends, in sizes ¼" to 3", the Powell "Master Pilot" is constructed for 450 pounds steam pressure at 450 deg. F. or 225 pounds air, oil, gas, or water pressure at 100 deg. F.

Representatives: R. D. Allen, Jas. Coombe, E. R. Noll, E. K. Pierce, Wm. Heilig.

PRAIRIE OIL & GAS COMPANY
Tulsa, Oklahoma

Booth Nos. 100, 101, 110 and 111 Texas Building

PRAIRIE PIPE LINE COMPANY
Tulsa, Oklahoma

Booth Nos. 100, 101, 110 and 111 Texas Building

THE PRESCOTT COMPANY
Menominee, Michigan

Exhibit: A 7x20" Horizontal, Duplex, Double Acting Slush Pump for rotary drilling, direct connected to a Westinghouse 250 H.P. steam turbine

Representatives: Curry S. Prescott, Fred H. Hayes, Fred Thilenius (in charge of booth), A. M. Balzer.

THE PRESS SIGN COMPANY
St. Louis, Missouri

Booth No. 37 M. & R. Building

PRESSED STEEL CAR COMPANY
Chicago, Illinois

Booth No. 11 and Exhibition Track
Refiners & Marketers Building

Exhibit: Photographs of facilities for the construction and repair of tank car equipment. Photographs and descriptions of modern tank cars built for the transportation of petroleum products recently built by this company at their plant located at McKees Rocks, Pittsburgh, Pennsylvania. On the Exhibition Track we will have a 10,000-gallon insulated car available for inspection.

Representatives: F. L. Johnson, assistant general sales manager, Western District; C. H. Jackman, sales agent, Western District; D. J. Whalen, tank car plant superintendent.

PRESSED STEEL TANK COMPANY
Booth No. 51 Marketers Building

PREST-O-LITE COMPANY, INC.
New York, N. Y.

Booth Nos. 18, 19 ,20 and 21 Texas Building

PRODUCERS & REFINERS CORP.
Tulsa, Oklahoma

Booth Nos. 100, 101, 110 and 111 Texas Building

PROGRESSIVE BRASS MFG. CO.
Tulsa, Oklahoma

Booth No. 10 Texas Building

Exhibit: Brass, Bronze, Aluminum, Monel Metal and Special Alloy Castings. Bronze Replacement Parts for oil country Gas and Steam Engines and Clutches.

Representatives: E. J. Thomas, N. A. Doolittle, C. O. Beckett.

PURCHASING AGENTS ASSOCIATION
Tulsa, Oklahoma

Booth No. 55 S. & T. Building

PYLE-NATIONAL COMPANY
Chicago, Illinois

Booth No. 63 R. & M. Building

PYRENE MANUFACTURING COMPANY
Newark, N. J.

Exhibits: Pyrene Fire Extinguisher and Tire Chains.

Representatives: J. J. Doherty, D. S. Allen, J. C. Bolding, S. C. Moore.

QUIGLEY FURNACE SPECIALTIES COMPANY
New York City

Booth Nos. 20 and 21 R. & M. Building

J. P. RATIGAN
Booth Nos. 132 and 133 Oklahoma Building

REDA PUMP COMPANY
Bartlesville, Oklahoma

Booth Open Space Lot "C"

Representative: A. Arutunoff.

REED ROLLER BIT CO.
Houston, Texas

Booth Nos. 13 and 14 Texas Building

Exhibit: Reed Rock Bits, Reed Reamers, Reed-Elliott Combination Hard and Soft Formation Core Bits, Reed Wire Line Bits, Reed's Barrett-Robishaw Combination Drilling-Coring Bits, Reed Tool Joints, Reed Milling and Fishing Tools.

Representatives: W. L. Childs, R. G. Hamaker, Lock McDaniel, R. H. Giesey, Dan Del Homme, H. C. Howard.

THE REFINER & NATURAL GASOLINE MANUFACTURER
Houston, Texas

18x18 feet Outside.

Representatives: R. L. Dudley, A. L. Burns, S. W. Robinson, J. F. Carter, Jr., Grady Triplett, George Reid, Floyd Swindell, J. D. Isaacks.

REFINERY CASTING CO.
Dallas, Texas

Booth No. 4 California Building

REFINERY SUPPLY COMPANY
Tulsa, Oklahoma

Booth Nos. 8 and 9 Scientific and Technical Building

Exhibit: Oil Thieves, Vapor Pressure Bombs, Ac-Me Specific Gravity Gas Balance, Ac-Me Recording Gravitometer, Tank Car Calculator, R. S. Manometers, Trerice Steam Traps, Hay's Co_2 Recorders and Gas Analyzers.

Representatives: R. M. Dixon, W. A. Schlueter, H. F. Goodenough, C. R. Duffy, T. C. Williams, J. B. Okeson.

REGAN FORGE & ENGINEERING COMPANY
San Pedro, California

Open Space Lot "E"

REGAN SALES COMPANY
Dallas, Texas

Booth Block "E"

Exhibits: Regan Tubing Gas Controller for tubing gas and oil wells under pressure; Regan Casing Gas Controller for casing oil and gas wells under pressure; Regan Well Head Control Equipment for packing off between strings (Braden heading); Regan Tubing Heads and Christmas Tree Fittings; Regan Crown and Traveling Blocks for all depths and conditions of drilling.

Representatives: B. A. Cleveland, B. S. Minor, F. J. Swarm, Jim Begg, Joe Beer, D. A. Cant, W. S. Proctor, W. A. Pitts, W. S. Stroud, R. V. Stout, R. A. Weaver, Jim Lethgo.

JOSEPH REID GAS ENGINE COMPANY
Oil City, Pennsylvania

Outside Location on Drake Avenue.

Exhibit: Type C 14½x18" Two Cycle Gas Engine equipped with Reid No. 55 Heavy Duty Reverse Rig. Reid Reversible Countershaft.

Representatives: John Reid, vice president, Bliss Hotel; S. R. Shoup, general sales manager, Bliss Hotel; H. L. Hileman, sales manager, Bliss Hotel; R. D. Irwin, attendant, 1915 N. Cheyenne Avenue; Paul L. Slonaker, Texas-Louisiana-Arkansas representative, Bliss Hotel; R. O. Morgan, Seminole representative, Bliss Hotel.

REPUBLIC RUBBER CO.
Youngstown, Ohio

Booth Nos. 26 and 27 — Texas Building

REPUBLIC STEEL CORPORATION
Youngstown, Ohio

Booth Nos. 23, 24, 25, 26 and 27 — California Building

Exhibit: Republic Electric Weld Pipe, Toncan Iron Pipe, Enduro KA2 Stainless, Agathon Alloy Steels.

Representatives: J. E. Holmes, F. H. Ramage, W. M. Neckerman, Gordon Hess, C. S. Powers, L. S. Hamaker.

RESISTCOR ENGINEERING CORPORATION
Tulsa, Oklahoma

Open Space Lot 40x70 Outside.

R-F ELECTRICAL MANUFACTURING CO.
Shawnee, Oklahoma

JAY B. RHODES COMPANY
Kalamazoo, Michigan

Booth No. 50 — California Building

Exhibit: Oil Dispensing Equipment, consisting of Glass Jars, Dispenser Spouts, Wire Carrier Trays, Display Stands, Porcelain Enamel Signs.

Representatives: L. G. Slater, president; D. B. Hunt, general manager; W. Hays Sims, branch manager, Tulsa.

H. RICKMAN S-R TUBING PROTECTORS
Tulsa, Oklahoma

Booth No. 16 — Arcade Building

Exhibit: Rickman S-R Tubing Protectors.

Representative: H. Rickman will be in charge.

THE RIDGE TOOL COMPANY
Elyria, Ohio

Booth No. 31 and 32 — Texas Building

Exhibit: Pipe Wrenches, Pipe Cutters, Vises, Super Wrenches, new type of stock and die.

Representatives: R. C. Chamberlin in charge, H. E. Bowes, Jas. E. Graham.

RIEBER INSTRUMENT CORPORATION
Los Angeles, California

Booth Nos. 6, 7, 8 and 9 — California Building

IRA RINEHARTS OIL REPORT
Tulsa, Oklahoma

Booth No. 21 — Oklahoma Building

M. H. ROBERTSON CO.
Houston, Texas

Booth No. 81 — Oklahoma Building

ROBINSON ARTIFICE FITTING COMPANY
Los Angeles, California

Booth No. 30, 40, 41 and 42 — Scientific & Technical Building

JOHN A. ROEBLING'S SONS COMPANY
Booth Nos. 46 and 59 — California Building

ROME WIRE ROPE COMPANY
Rome, N. Y.

Outside Space with Sullivan Machinery Company.

ROMORT MANUFACTURING COMPANY
Oakfield, Wisconsin

Booth Lot Q

ROONEY-KRAFFT COMPANY
Tulsa, Oklahoma

Booth No. 43 — California Building

ROSSENDALE-RUBOIL COMPANY
Booth No. 46 and 59 — California Building

SAFETY CLOTHING COMPANY
Cleveland, Ohio

Booth No. 87 — Texas Building

THE SAFETY PULLING MACHINE CO.
Independence, Kansas

Booth Lot H

Exhibit: The Economy Cleanout Machine; Safety and Eclipse Pulling Machines.

Representative: Owen A. Thompson, president and general manager.

SAN ANGELO BOARD OF CITY DEVELOPMENT
San Angelo, Texas

Booth No. 46 — S. & T. Building

SCHRAMM, INC.
West Chester, Pa.

Booth "C"

Exhibit: Standard type No. 120 portable engine driven compressor. Standard engine driven welder with six cylinder engine and a complete assortment of Pneumatic tools.

Representatives: C. W. Holmes, manager Tulsa office; H. N. Schramm, president, Schramm, Inc.

SCIENTIFIC INSTRUMENTS
Booth Nos. 24, 25, 26 and 27 — S. & T. Building

SCINTILLA MAGNETO COMPANY, INC.
Sidney, N. Y.

Open Space Lot F.

SEAMLESS STEEL PRODUCTS CORPORATION
Milwaukee, Wisconsin

Booth No. 51 — Marketers Building

SERVICE STATION EQUIPMENT CO.
Dallas, Texas

Booth No. 45 — R. & M. Building

SHAND & JURS SALES CO.
Denver, Colorado

Booth No. 37 — California Building

THE SHARPSVILLE BOILER WORKS COMPANY
Sharpsville, Pennsylvania

Booth No. 30 — Marketers Building

Exhibit: The Sharmeter, both the single and tandem cabinets; The Sharlite, our floodlight for Service Stations, Bulk Plants and Refineries.

Representatives: J. S. Lewis, Tulsa, Okla.; H. S. Pell, Sharpsville, Pa.

SHEFFIELD STEEL CORPORATION
Kansas City, Mo.

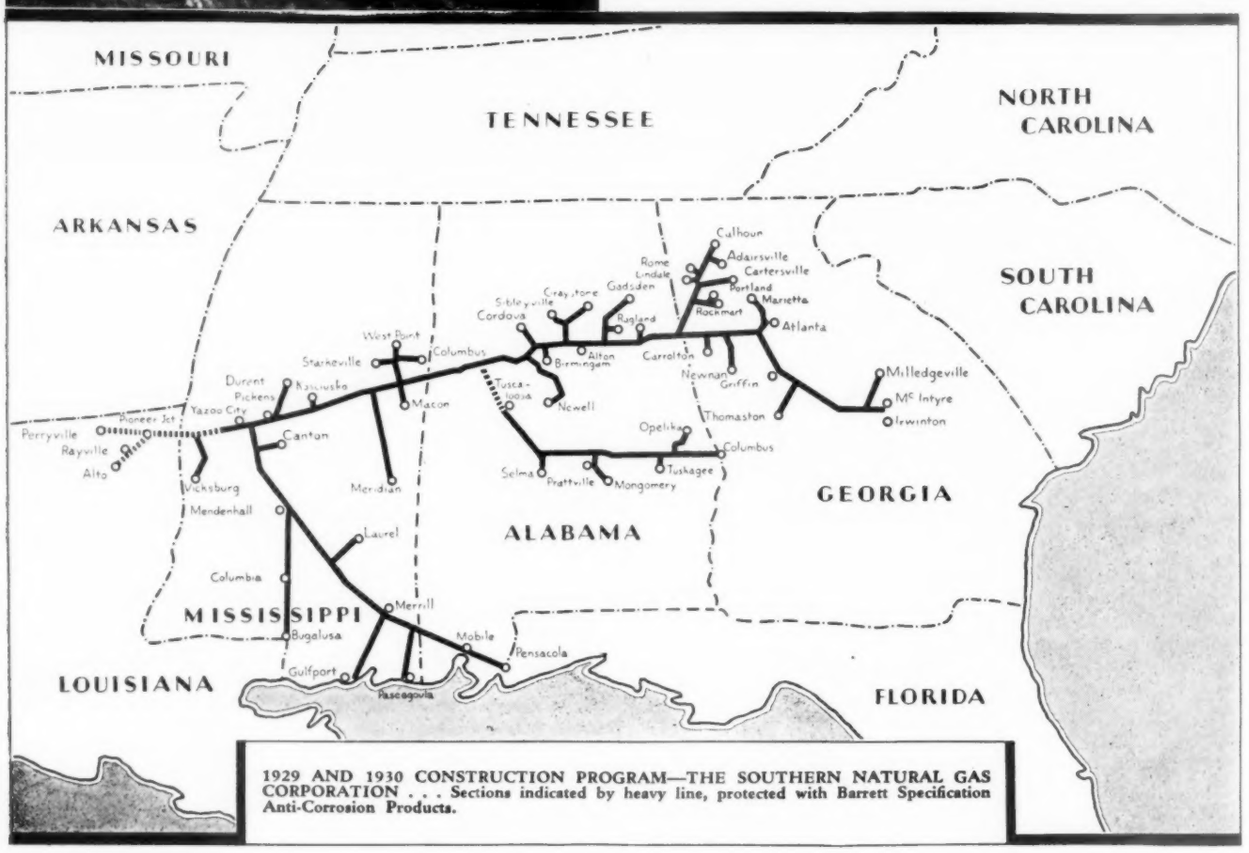
Booth Nos. 114 and 115 — Oklahoma Building

Barrett Specification ANTI-CORROSION PRODUCTS

Picture shows construction of a section of the Southern Natural Gas Corporation's Pipe Line System. Barrett Specification Anti-Corrosion Products used to insure long life.

BARRETT SPECIFICATION ANTI-CORROSION PRODUCTS

. . . include felt reenforced enamels for extreme conditions— rivers, swamps, etc., enamels to be applied hot in less corrosive soils; cold applications for still less corrosive locations.



1929 AND 1930 CONSTRUCTION PROGRAM—THE SOUTHERN NATURAL GAS CORPORATION . . . Sections indicated by heavy line, protected with Barrett Specification Anti-Corrosion Products.

PROTECT

the SOUTHERN NATURAL GAS CORPORATION SYSTEM

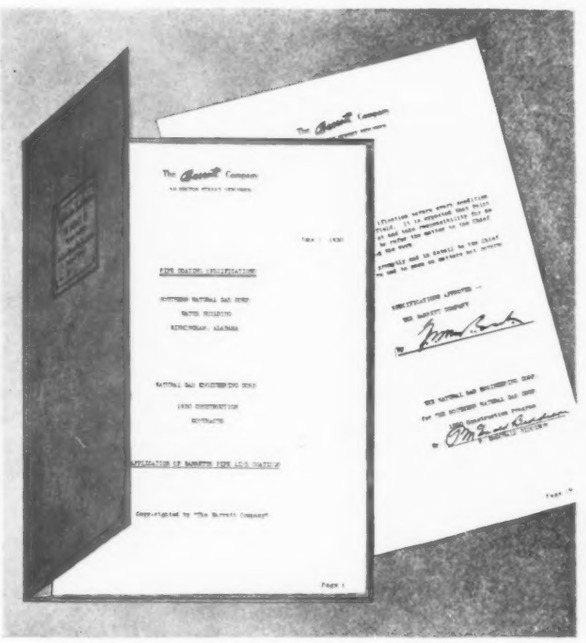
THE Southern Natural Gas Corporation's pipe line system serving the Southeast with natural gas, forms a network which extends through the states of Georgia, Alabama, Mississippi and Louisiana.

In an installation of this size and character, the necessity for absolute protection against corrosive agents of every kind was of the utmost importance.

Hence a tonnage equalling more than 400 carloads of Barrett Anti-Corrosion Products — Enamels, Primers and Cold Application Products was used.

It is needless to say that this choice was made only after careful investigation.

Barrett Anti-Corrosion Products include: *Enamels*—made with the finest grade of Coal Tar Pitch, and a flake type of internal reinforcement which permits the use of a higher percentage of waterproofing base. *Primers* and *Cold Application Products* — utilizing the same base with suitable solvents. *Pipe Line Felts*—saturated with waterproofing, a re-inforcement to permit the use of a maximum amount of protective coatings.



Individual Specifications

for the Individual Job

To the quality of Barrett products must be added the value of a complete Service. Barrett Construction Specifications are written for the individual job, and provide the best methods of application under existing conditions. Barrett Service also supplies quantity surveys and field inspection. Barrett Anti-Corrosion Products are a guarantee of pipe line protection properly, adequately, economically provided—and ready to serve for years to come.

Bulletins on Barrett Anti-Corrosion Products are available and can be had for the asking.

The Barrett Company

40 Rector St., New York

SHELDON MACHINERY CORP.
New York City

Space G Outside.

Exhibit: Rotary Drilling Machines, Hydraulic Feed Mechanisms and Flush Joint Pipe System of Pressure Control.

Representatives: Waldo Sheldon, president; L. H. Buttenheim, vice-president; J. E. Burden, vice-president; S. M. Decker, secretary; J. C. Fortune, sales department; A. P. Berry, sales department; George Hogan, sales department; W. R. Walne, sales department; N. Kominus, engineer; Carl Shattuck, engineer.

SHELL PETROLEUM CORPORATION
Tulsa, Oklahoma

Booth Nos. 24 and 25 — R. & M. Building

THE SHERWIN-WILLIAMS COMPANY
Tulsa, Oklahoma

Booth Nos. 53 and 54 — Oklahoma Building

Exhibit: Sherwin-Williams Kromik Primer, the original Lead Chromate base metal protective primer; Sherwin-Williams Petro-Seal, an oil-proof, gasoline-proof, elastic coating for tank seams and tank interiors; Sherwin-Williams Lyne-Kote, hot and cold application pipe line coating, and other paint, varnish and enamel finishes for the petroleum industry.

Representatives: A. W. Everett, Tulsa, Okla.; N. F. Adams, Cleveland, Ohio; C. Sebert, Oklahoma City, Okla.; V. K. Wolcott, Cleveland, Ohio; K. B. Keyerleber, Cleveland, Ohio; W. P. Clark, Kansas City; A. V. Higgins, Kansas City.

SINCLAIR REFINING COMPANY
Tulsa, Oklahoma

Booth No. 4 — Refiners & Marketers Building

SIVYER STEEL CASTING COMPANY
Milwaukee, Wisconsin, and Chicago, Illinois

Booth Nos. 6, 7, 8 and 9 — Texas Building

SKELLY OIL CO.
Tulsa, Oklahoma

Booth Nos. 46, 47, 58 and 59 — R. & M. Building

S. K. F. INDUSTRIES, INC.
New York City

Booth Nos. 14 and 15 — California Building

A. O. SMITH CORPORATION
Milwaukee, Wisconsin

Booth Nos. 113, 114, 115, 116 and 117 — Texas Building

H. C. SMITH MANUFACTURING COMPANY
Los Nietos, California

Booth Nos. 63 and 64 — California Building

SMITH SEPARATOR COMPANY
Tulsa, Oklahoma

Booth Nos. 90 and 121 — Texas Building

Exhibit: The New Smith Oil and Gas Separator, Ever Ready Protector, (Tubing Catcher), Waters Water Gauge Cock.

Representatives: L. B. Rowsey, E. J. Riley, J. E. Walker, F. G. Love, M. Langford, J. F. McKelvey, S. V. Dillon, T. E. Ward, New York; R. F. Ley, New York; W. C. Jolly, Ft. Worth, Texas; J. M. Sides, Hobbs, N. M.; A. D. Johnston, Pampa, Texas; J. F. Buford, Houston, Texas; C. H. Williams, Oklahoma City; W. V. Fuller, Oklahoma City; F. H. Smith, Casper, Wyoming.

T. L. SMITH COMPANY
Milwaukee, Wisconsin

30x30 Lot "C" Outside.

SMITH WELDING EQUIPMENT CORPORATION
Minneapolis, Minnesota

Booth No. 118 — Texas Building

Exhibit: Oxy-Acetylene Welding and Cutting apparatus, Acetylene Generator.

Representatives: John R. R. Miles, general manager; Ira A. Cochran, factory representative; C. E. Porter, factory representative.

SONNER BURNER COMPANY
Winfield, Kansas

Booth No. 120 — Texas Building

SOUTHERN MILL & MFG. CO.
Tulsa, Oklahoma

Booth Nos. 1 and 2 — Oklahoma Building

Exhibit: "Sturdybilt" Sectional Lease House.

Representatives: W. H. Ahrens, Geo. S. Ahrens, C. H. Ahrens.

SOUTHERN PINE ASSOCIATION
New Orleans, La.

Exhibit: All-Wood Derrick.

SOUTHWESTERN BELL TELEPHONE CO.
Tulsa, Oklahoma

Booth No. 17 — Producers & Refiners Building

Exhibit: Telephone Typewriters, Page and Tape Types; new Business and Residence Telephone Equipment, showing adequate and convenient telephone service.

Representatives: W. H. Reilly, W. H. Berry, O. N. Dailey, H. H. Armstrong, E. H. Steanson, G. M. Dill.

SOUTHWESTERN ENGINEERING CORPORATION
Tulsa, Oklahoma

Lot G

SPANG AND COMPANY
Butler, Pennsylvania

Booth Nos. 102 and 103 — Oklahoma Building

Exhibit: Cable Tools and Supplies.

Representatives: L. F. Porter, Winfield, Kansas; I. E. Rumpf, Shawnee, Oklahoma; C. T. Mapes, Butler, Pa.; F. J. Spang, Butler, Pa.; G. A. Spang, Butler, Pa.

SPANG, CHALFANT & CO., INC.
Pittsburgh, Pennsylvania

Booth Nos. 52 and 53 — Texas Building

Exhibit: No material display. Booths will be filled with comfortable chairs.

Representatives: L. L. Minor, Jr., W. J. Hampton, Gordon Fisher, Jr., T. L. Kirk, J. D. Hardcastle, E. B. Perkins, H. G. Texter.

SPARTAN STEEL CO.
Compton, California

Booth No. 20 — California Building

Exhibit: Spartan Keenshear Bits, Spartan Automatic Stop Cock, Duridium, Tungspar.

Representatives: Chas. Burke, Paul Gray.

SPENCER TRAILER COMPANY
Augusta, Kansas

Open Space Lot "C" and Space Outside.

SPENCER TURBINE CLEANER COMPANY
Hartford, Conn.

Booth No. 63 — R. & M. Building

SPERRY-SUN WELL SURVEYING COMPANY
Philadelphia, Pennsylvania

Booth Nos. 29 and 30 — S. & T. Building

Exhibit: Surwell Gyroscopic Clinograph, Syfo Clinograph, Side Wall Sampler.

Representatives: G. L. Kothny, vice-president; M. T. Higgs, manager Dallas office; W. H. Emerson, assistant manager Dallas office; A. B. Palmer, sales engineer.
Mayo Hotel—Tulsa, Oklahoma.

SPLITDORF ELECTRICAL COMPANY
Newark, N. J.

Open Space Lot F

SPRINGFIELD TRAILOR COMPANY
Springfield, Mo.

40′ x 70′ Outside

STANDARD STEEL COMPANY
Kansas City, Mo.

40′ x 70′ Outside

STAR DRILLING MACHINE COMPANY
Akron, Ohio

Open Space
Exhibit: Star Spudder, Star Drilling Engine, No. 49 Star Spudder.
Representatives: Carl Ahlers, J. H. Nelson, F. L. Breyfogle, George Heinish.

STATE GEOLOGICAL SURVEY OF KANSAS
Lawrence, Kansas

Space 10′ x 15′, Lot P

STEFCO STEEL COMPANY
Tulsa, Oklahoma

Booth 55 Oklahoma Building

STERLING STEEL CASTING COMPANY
Tulsa, Oklahoma

Booth No. 33 Texas Building
Exhibit: Special Steel Castings, in the rough; Steel Castings, finished and assembled in specialties and equipment; Cast Steel Cylinder Heads for the various types of gasoline engines.
Representatives: R. O. Shive, President; C. L. Harrell, Vice President; J. W. Greene, District Manager, Tulsa office; J. S. Newlon, Shop Supt., West Tulsa.

STITT IGNITION COMPANY
Columbus, Ohio

Open Space, Lot F

STOCKHAM PIPE & FITTINGS COMPANY
Birmingham, Alabama

Booths Nos. 106 and 107 Texas Building
Exhibit: Stockham Return Bend, Stockham Electric Furnace Steel Fittings.
Representatives: D. W. Stockham, Vice President; Walter G. Winburn, J. Frank Ward, Jr., Neff S. Cass.

STOODY COMPANY
Whittier, California

Booths Nos. 44 and 45 Texas Building
Exhibit: Stoody Universal Oil-Tool Grinder; Stoody Combination Grinder, Disc Grinding Attachment for above; Stoody Flexible Shaft Grinder, Stoody Universal Bit Holder, Stoody Electrode Holder, Borium, Stoodite, Alloy Welding Rods and Alloy Metals.
Representatives: Miles C. Smith, Manager Sales Promotion; D. F. McCandlish, Mid-Continent Branch Manager; R. L. Adams, C. B. Rambo.

STRONG, CARLISLE & HAMMOND COMPANY
Cleveland, Ohio

Open Space Lot SE ¼ Block K, 15′ x 50′

THE STRONG-SCOTT MANUFACTURING CO.
Minneapolis, Minn.

Booths Nos. 94-95-96 Oklahoma Building

STRUTHERS WELLS TITUSVILLE COMPANY
Booth No. 60 Texas Building

THE SULLIVAN COMPANY
Memphis, Tennessee

Booth No. 70 Texas Building
Exhibit: Konset, Slush-Mix, Gelite, Fissurseal, Hef-T, Kleen-A-Well, Pipe Line Coating, Deflect-O-Lite Aluminum Paint, Flameproofing, Flameproof Paints, Solrite, Boiler Compound; Insulating Cements and other technical products.
Representatives: J. W. Salles, A. E. Adkison, D. P. Estridge, F. Daly Sullivan, Joe McConnell, T. E. Ward.

SULLIVAN COMPANY OF OKLAHOMA
Tulsa, Oklahoma

Booth 7 Texas Building

SULLIVAN MACHINERY COMPANY
Chicago, Illinois

Outside Space

SUN OIL COMPANY
Philadelphia, Pa.

Booths Nos. 52-53 R. & M. Building

SUPERIOR GAS ENGINE COMPANY
Springfield, Ohio

Lot N

SWENSON EVAPORATOR COMPANY
Harvey, Illinois

Booth No. 54 California Building

C. J. TAGLIABUE MANUFACTURING COMPANY
Brooklyn, N. Y.

Booths Nos. 8-9 Scientific & Technical Building

THE TAPPAN STOVE VOMPANY
Mansfield, Ohio

Booth No. 64 Scientific & Technical Building
Exhibit: Ranges for use with Liquefied Petroleum Gas; Sales promotion material on the subject of bottled gas.
Representatives: D. O. Meese and/or W. M. Bonnell.

TAYLOR INSTRUMENT COMPANIES
Rochester, N. Y.

Booths Nos. 35 and 36 Scientific & Technical Building
Exhibit: Industrial Thermometers, Recording Thermometers, Recording Pressure Gauges, Regulators, Temperature and Pressure; Pyrometers, Barometers, Mercury and Aneroid; Viscosimeters, Vacuum Gauges, Flush-Mounted Recorders, Time-Temperature Control Units, Tycos Valves.
Representatives: A. J. Fleig, E. H. Triphaus, L. G. Marsh, D. R. Davis, H. A. Brown, E. C. Taylor, Frank Rees.

TEMPLETON, KENLY & COMPANY, LIMITED
Chicago, Illinois

Booth No. 42 Texas Building
Exhibit: Simplex Lifting Jacks, Simplex Screw Jacks, Simplex Automobile Jacks, Simplex Pipe Pushing Jacks.
Representative: H. B. Burlow, vice president.

THE TERRY STEAM TURBINE COMPANY
Hartford, Conn.

30′ x 40′ Open Space Lot, Block L

THE TEXAS COMPANY
Tulsa, Oklahoma

Booths Nos. 32-31 Marketers Building

TIMKEN ROLLER BEARING CO.
Canton, Ohio

Booths Nos. 72-73 Texas Building

TITUSVILLE IRON WORKS CO.
Tulsa, Oklahoma

Booth No. 60 Texas Building

TRANSCONTINENTAL OIL COMPANY
Tulsa, Oklahoma

Booths Nos. 34-35-36 R. & M. Building

THE TRACKSON COMPANY
Milwaukee, Wisc.

Right of Main Eenrance

TRIMONT MFG. COMPANY
Roxbury, Boston, Mass.

Booth No. 100 Oklahoma Building
Exhibit: Trimo Pipe Wrenches, Trimo Monkey Wrenches, Trimo Pipe Cutters, Trimo Baines Cutters, Trimo Saunders Cutters, Trimo Cutter Wheels, Trimo Pipe Vises, Trimo Chain Pipe Vises, Trimo Chain Wrenches, Trimo Pruning Shears, Trimo Bumping Tools, Trimo Body and Fender Tools.
Representatives: P. C. Gregory, Sales Manager; J. F. Corcoran.

TUBE-TURNS, INCORPORATED
Louisville, Ky.

Booth No. 22 Oklahoma Building
Exhibit: Tube-Turns, seamless drawn short radius fittings for pipe welding in sizes from 1″ through 18″ in Standard Iron Pipe Sizes, and 1½″ through 12″ in Extra Heavy Iron Pipe Sizes, both series in 45° elbows, 90° elbows and 180° returns; Enduro KA2S, Ascolloy, Copper and Brass Tube Turns.
Representatives: John G. Seiler, Sales Manager; J. T. How-

Conquering the Scourge of a Great Industry

THE Cameron Iron Works, through the practical application of a scientific fact has been able to save the oil industry millions of dollars. By successfully developing the now famous "steel around steel grip" which is employed in its Blowout Preventers and Tubing Control Heads, the industry has been given a positive and absolute means of preventing blowouts and controling high pressures.

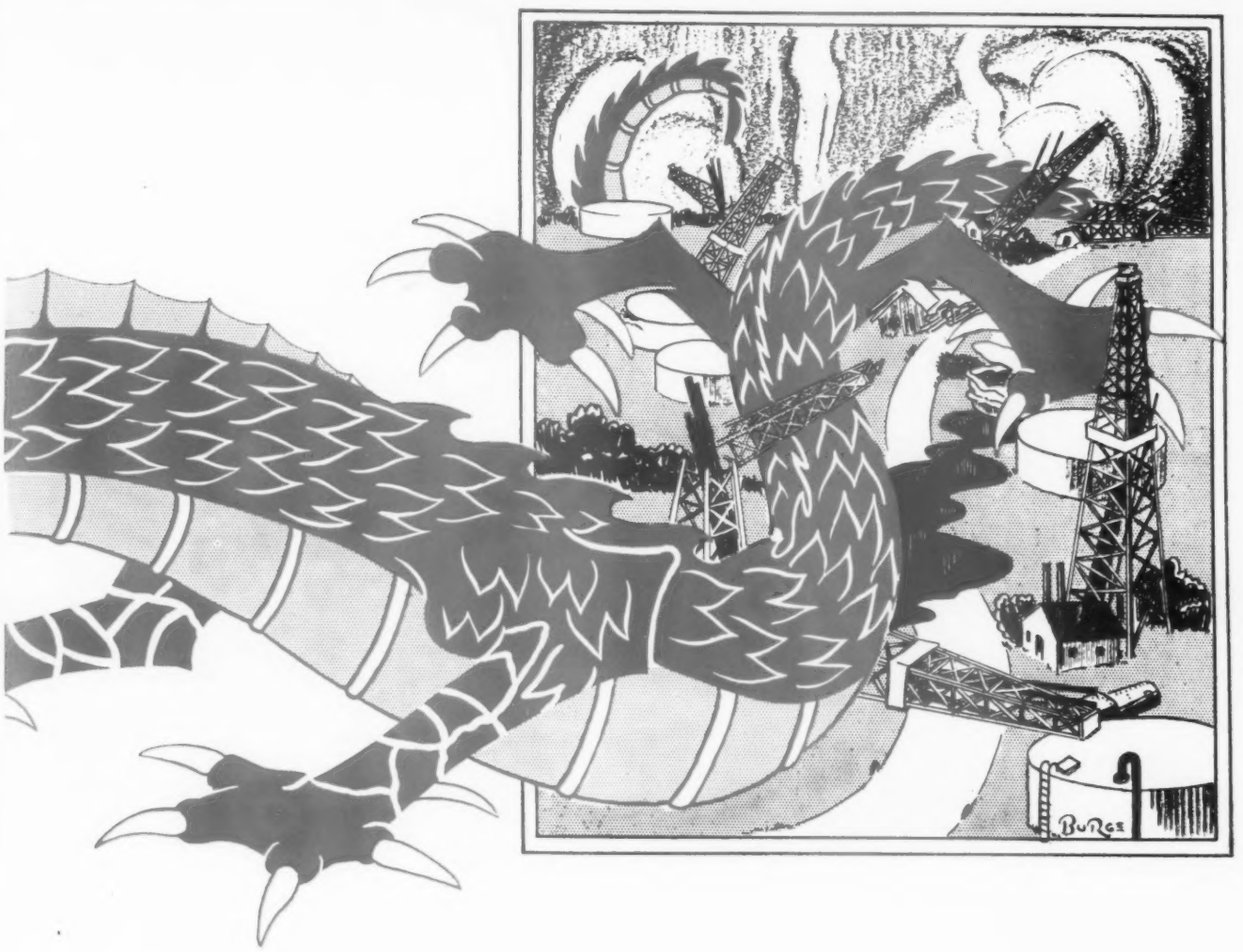
Cameron engineers have at their disposal the resources of an organization who fully appreciates the importance and magnitude of the work they have set out to accomplish. Cameron's experience is not limited. It was they who pioneered in the work of blowout prevention. More than 10 years ago they offered the industry the first practical and successful blowout preventer.

During the intervening years they have specialized in this type of equipment. They have constantly explored new methods . . . new principles . . . new materials for the construction of these products. The whole wide world has been their proving ground, and *not a single Cameron Iron Works Blowout Preventer has ever failed to hold when the time came to prevent a disastrous blowout.*

Only in Cameron Blowout Preventers and Tubing Control Heads is found the "steel around steel grip." This grip is achieved by two concave faced rams closing from opposite directions around the drill stem, casing or tubing. The faces are machined to a close precision so that when closed they completely encircle the pipe in the hole, holding it in a vise-like grip. The rams are machined on top and bottom. *This provides a flat surface against which couplings or tool joints butt and through which they cannot pass.* Full strings of tubing or drill pipes can be supported on these rams.

CAMERON

HOUSTON.



Two years ago, Cameron engineers perfected the first blowout preventer which could be closed by steam through remote control. The introduction of this advanced preventer completely revolutionized the industry's opinion of high pressure danger. It made possible the instantaneous closing of the preventer from any distance. By simply opening a four-way operating valve steam enters the pistons and drives the steel rams around the drill stem, without any of the men going near the derrick floor. An additional feature of security is provided by fourteen-foot extension closing wrenches with 48 inch diameter closing wheels which extend from below and outside the derrick floor. These are used to apply additional pressure to the rams around the drill stem or casing.

Cameron Tubing Control Heads have played an important part in maintaining correct gas-oil ratios and allowing wells to be tubed under pressure without first killing them. With two of these heads mounted in tandem wells have been successfully tubed against 1750 pounds pressure without loss of gas or oil. With them wells have been re-tubed, different tubing sizes run into the same well, depths changed, and numerous other jobs completed without loss.

Repeated tests, and countless instances of successful performance have made the correctness of the Cameron principle so conclusive that no other equipment designed for the same purpose can even approach Cameron products. For in the future, as at present, instantaneous closing, remote control, simplicity of operation, and positive performance will conquer high pressures, the scourge of the oil industry.

The destructiveness of high pressures is too costly to risk the use of anything less than Cameron proven products.

Stocks in all active high pressure territories.

IRON WORKS INC

TEXAS

ington, Manager Petroleum Division. Also in attendance at booth will be representatives of the Moorlane Company, Tulsa distributor for Tube-Turns, and the Maintenance Engineering Corporation, Houston distributor for Tube-Turns.

TULSA BOILER & MACHINERY COMPANY
Tulsa, Oklahoma

Space 30′ x 40′ in Lot L

TULSA CANVAS PRODUCTS COMPANY
Tulsa, Oklahoma

Lot H

TULSA OVERALL & MFG. COMPANY
Tulsa, Oklahoma

Booth No. 66 Producers & Marketers Building
Exhibit: Pants, Shirts, Magicalls, Playsuits, Overalls.
Representatives: R. D. Sanford, President; W. L. Brockman, Gen. Mgr.; M. W. Ijams, Salesman; Sample E. Brockman, Auditor.

TULSA PUBLIC LIBRARY
Tulsa, Oklahoma

Booth No. 13 Scientific & Technical Building

TULSA ROLLING MILLS
Sand Springs, Oklahoma

10′ x 10′ Outside.

TULSA RUBBER PRODUCTS COMPANY
Tulsa, Oklahoma

Booth No. 54 Texas Building
Exhibit: Tulsa Rubber Products Company of 716 So. Boston, will display in their booth in the Texas Building a number of different items in rubber which are handled by the company. Silvertown tires and tubes, as well as Airplane Tires and Accessories, Goodrich Highflex Belting—"The Raw Edge Belt," Rubber Anode Electrician Gloves and Acid Gloves for refinery use, Packing, all types of Rubber Hose, including garden, water, welding, gasoline, suction, steam and air. Also rubber boots and shoes for oilfield service.
Representatives: George B. Campion, B. F. Goodrich Rubber Co., Akron, Ohio; Ben H. Elliott, B. F. Goodrich Rubber Co., Tulsa, Okla.; N. W. (Ben) Franklin, Tulsa Rubber Products Co., Tulsa, Okla.

TULSA UNIVERSITY
Tulsa, Oklahoma

Booth No. 18 S. & T. Building

TURBO-MIXER CORPORATION
New York, N. Y.

Booth No. 61
Exhibit: In their space, Booth No. 61, they will show: Working models of Turbo-Contacter for the contacting of fullers earth and oil, showing the extreme speed with which the Turbo-Mixer breaks up the fullers earth to its ground particle size, resulting in faster contacting and lower earth requirements; Working model of the Continuous Turbo-Treater for treating oils and distillates; Working model of the Turbo-Mixer for the instantaneous preparation of drilling mud; Large sized Impellers.

TUTHILL PUMP COMPANY
Chicago, Ill.

Exhibit: High Pressure Oil Pump.

TWIN DISC CLUTCH COMPANY
Racine, Wisconsin

Booth No. 80 Oklahoma Building
Exhibit: 42″ Oil Field Type Clutch mounted on a countershaft of a rotary drilling rig; 1 Heavy Duty Power Take Off Unit with 18″ clutch; A few loose clutches of various types and sizes.
Representatives: G. M. Guilbert, Sales Manager; J. B. Jenkins, Sales Engineer.

UNION CARBIDE SALES COMPANY
New York, N. Y.

Booths Nos. 18-19-20-21 Texas Building

UNION MACHINE COMPANY
Bartlesville, Oklahoma

Outside

UNION STEAM PUMP COMPANY
Battle Creek, Michigan

Open Space Lot SE ¼ Block K, 15′ x 50′

UNION WIRE ROPE CORPORATION
Tulsa, Oklahoma

Booths Nos. 56-57-58 Texas Building
Exhibit: Wire Rope for all purposes.
Representatives: R. H. Bartlett, President; M. G. Ensinger, Vice-President; H. R. Gruber, Vice-President; J. H. Hatch, Treasurer; J. A. Undercofler, Okla. Sales; F. A. Donaldson, Eastern Sales; H. G. Alston, East Texas Sales; R. I. Watkins, West Texas Panhandle Sales.

U. S. BUREAU OF MINES
Bartlesville, Oklahoma

UNITS OF THE UNION CARBIDE AND CARBON CORPORATION
New York, N. Y.

Booths Nos. 17 to 21 inclusive Texas Building
Exhibit: Oxweld welding blowpipes and accessories; Prest-O-Weld blowpipes and accessories; Oxweld Type MP-2 Portable Generators; Haynes Stellite welding rods and drilling tools; Union Carbide and Carbic in drums; Carbic Flood Lights; Oxweld Portable Tensile Testing Machine; Oxweld cutting blowpipes.
Representatives: Messrs. H. H. Griffith, W. S. Winn, A. C. Johnson, L. B. Moon.

UNIVERSAL ENGINEERING COMPANY
Los Angeles, Calif.

Booths Nos. 36-37 Texas Building
Exhibit: Zublin Rotary Oil Well Drilling Bits; Zublin Core Barrels.
Representative: Jack B. Clauer.

VENEZUELAN GOVERNMENT
Venezuela

Booths Nos. 48-49 S. & T. Building

VICTAULIC COMPANY OF AMERICA
New York, N. Y.

Booths Nos. 102-103-108-109 Texas Building

VICTOR WELDING EQUIPMENT CO.
San Francisco, Calif.

Booth No. 46 Texas Building
Exhibit: Victor Oxy-Acetylene welding and cutting torches (complete range); Victor Senior Safety Oxygen & Acetylene Regulators, and introducing Victor Junior Safety Oxygen & Acetylene Regulators; Victor Natural Gas Metal Cutting torches; Victor Liquid Petroleum Gas cutting, heating and brazing torches; Victor Aeroplane torches.
Representatives: L. W. Stettner, President; E. L. Mathy, Vice President; A. S. Heasley, Ass't to Vice President; E. A. Daniels, assistant to vice president.

VIKING PUMP COMPANY
Cedar Falls, Iowa

Booth No. 104 Texas Building

VINSON-CANTER COMPANY
Tulsa, Oklahoma

Exhibit: V-C Wick-Lube, Air Filters.
Representatives: V. C. Canter, B. W. Vinson.

VOLCANO BURNER COMPANY, INC.
Tulsa, Oklahoma

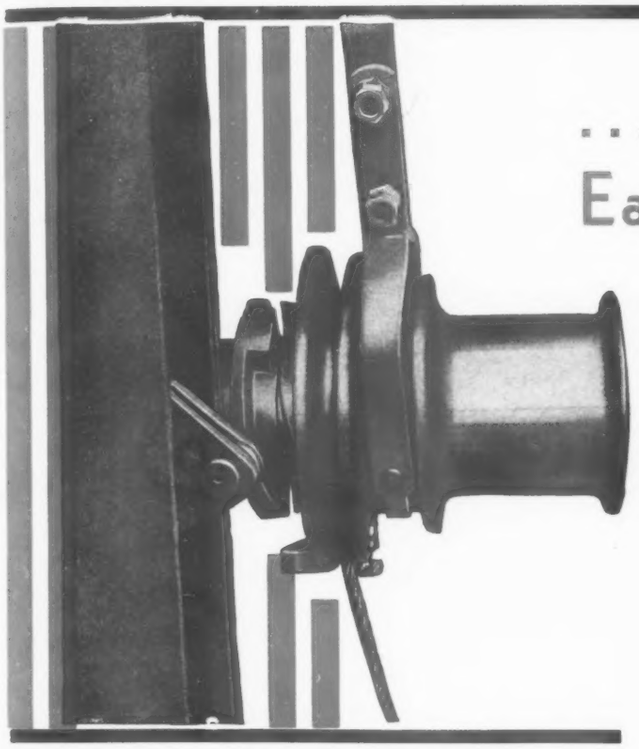
30′ x 40′ Open Space Lot, Block L.

WACKMAN WELDED WARE COMPANY
St. Louis, Mo.

Booth No. 40 Refiners & Marketers Building
Exhibit: Steel Drums, Delivery Cans, Tanic Wagon Buckets, Paint Spraying Equipment.
Representatives: George Wood, Chas. Ray, E. A. King.

When You Decide to Reduce Costs

..... install these Eason & Therolf Tools



E. & T. Joint Breaker and Cathead

Automatic Tool Joint Breaker Your costs to accomplish the work of breaking tool joints will be reduced when you install this tool. Two parts do the heavy work; the clutch with its three sturdy hard-faced teeth, and the tong line sheave bearing which is positively oiled from a large capacity oil reservoir.

All Steel Pump Valves All steel construction assures the strength necessary to stand under pump loads. The efficiency of your pump will be increased because of the self-cleaning, self-cushioning and positive fluid seal features.

E. & T. (All Steel) Valves

Mail the coupon below and we will send you complete information . . . without obligation.

Eason & Therolf Tool Co.

P. O. Box X
Los Nietos, California

Mid-Continent Distributor:
R. E. Gillespie, Oklahoma City, Okla.

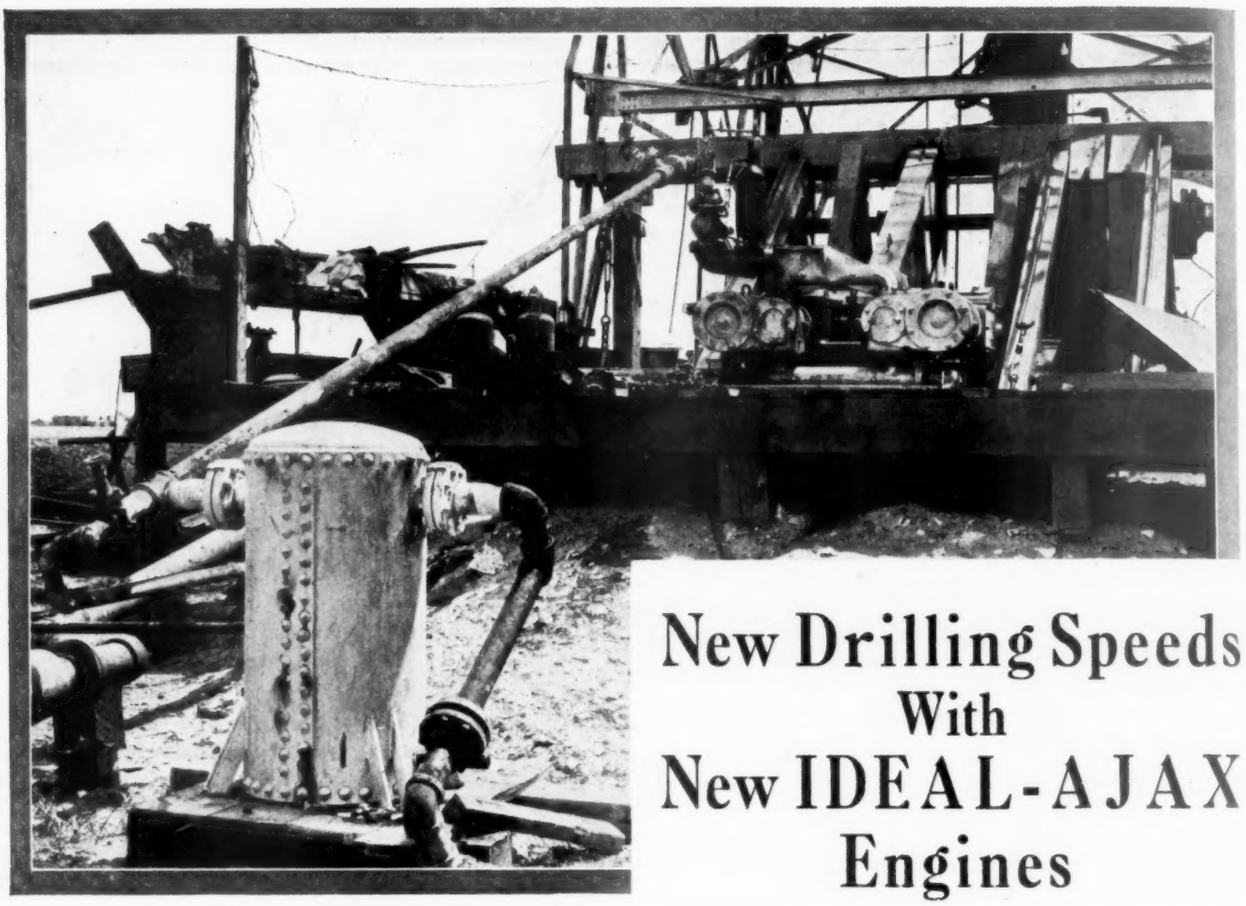
Gulf Coast Representative:
T. T. Word Supply Co. Houston, Texas.

CLIP AND MAIL COUPON TODAY

Eason and Therolf Tool Co., Los Nietos, Calif.—Please send me, without obligation, complete information on the E. & T. Tool Joint Breaker and the E. & T. Valve.

Name .....

Address .....



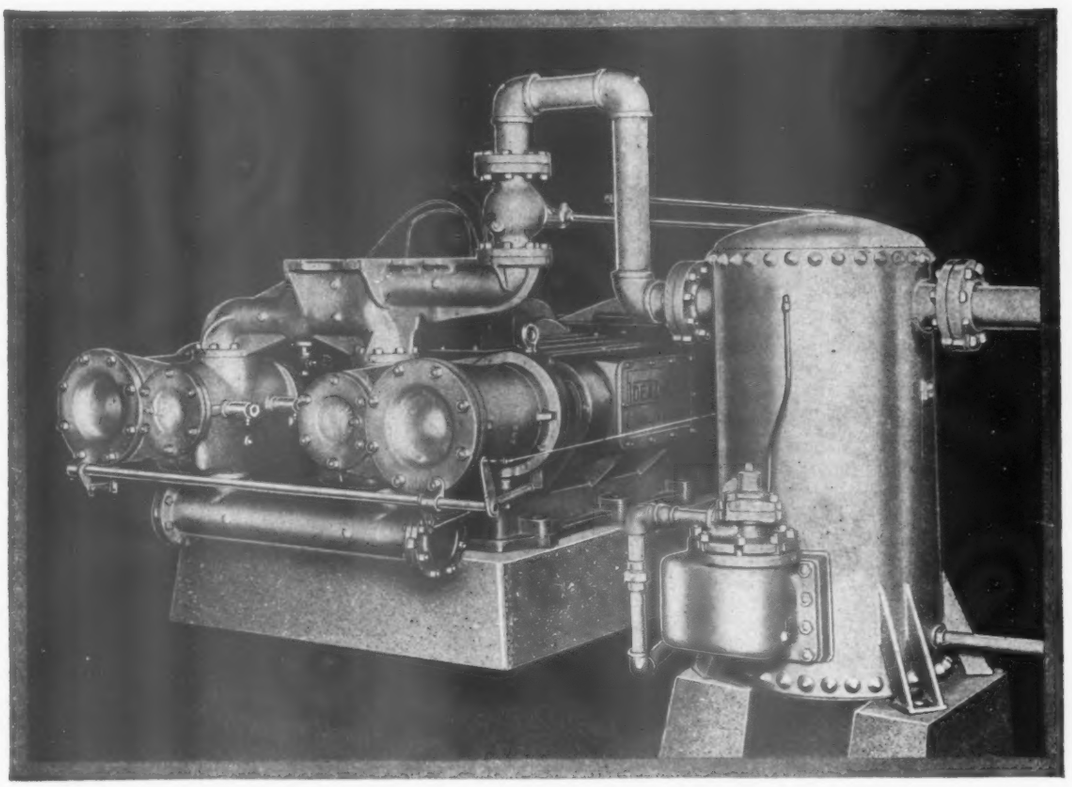
Ajax Roller Bearing Engine at Hobbs, New Mexico

New Drilling Speeds With New IDEAL-AJAX Engines

THE further perfection of the IDEAL-AJAX Roller Bearing Engines hooked up with the Ajax extra-heavy steam separators is making new records in the more active fields.

Ask the National Supply Man for the latest information.

AJAX and IDEAL-AJAX equipment the world over has been famous in every oil field for consistent performance and durability. No effort has been spared to keep IDEAL-AJAX Roller Bearing Engines well in advance of changing conditions. Replacements and parts service has always been maintained to insure the greatest possible economy to the operators.



Ajax extra-heavy Steam Separator hooked up with old and new equipment—whether or not used with the new Superheater Boilers

IDEAL-AJAX

ROLLER BEARING
STEAM DRILLING ENGINES

Made by **AJAX IRON WORKS**, *Corry, Pa.*

WAILES DOVE HERMISTON CORP.
New York City

Booth Nos. 83 and 128 Texas Building
Exhibit: Bitumastic Pipe Coating.
Representative: C. W. Cotton.

W-K-M MANUFACTURING COMPANY
Houston, Texas

Right of Main Entrance.

WALWORTH COMPANY
Boston, Massachusetts

Booths Nos. 104- 105, 106 and 107 Oklahoma Building
Exhibit: Valves: Drilling Gate, Flow Line, Bronze Sigma Steel Wedge Gate; Fittings: Heavy Oil Malleable; Nipples; Chrome-Nickel-Iron; Pipe: Chrome-Nickel-Iron; Ni-resist; Kewanee Unions, Walworth 600-2000 Unions; Demonstration of Walco Wrench.
Representatives: F. H. Morehead, W. C. Goza, F. W. Duemler, E. B. Keane, M. C. Jacobs, C. L. Bradbury, W. M. Combs, L. B. Wedge.

WARNER MANUFACTURING COMPANY
Minneapolis, Minn.

Booth No. 65 Refiners and Marketers Building
Exhibit: The "Lightning" Grease Liquefier; The "Aladdin" Grease Liquefier.
Representatives: H. H. Warner, J. E. Mayer, C. M. Simonds.

WATSON STILLMAN COMPANY
New York City

Booths Nos. 47-48 California Building

WAUKESHA MOTOR COMPANY
Waukesha, Wisconsin

Booths Nos. 89-90-120-121 Oklahoma Building
Exhibit: One 325 h.p. 6 cyl. 8½x8½ Overhead Valve Engine with gaspower mixer for natural gas fuel; One 225 h.p. 6 cyl., 7¾x8½ Diesel Engine; One 95 h.p. 4 cyl. 6¼x8 Diesel Engine; one 120 h.p. 6 cyl. cable tool drilling unit; One 70 h.p. 6 cyl. stationary power plant.
Representatives: J. B. Fisher, J. E. DeLong, M. E. Hicklin, R. M. Schaefer, H. Wirshing, J. A. Murdock.

WEBER ENGINE COMPANY
Kansas City, Mo.

Lot K
Exhibit: 1 Weber Type B, 80 h.p. 2 cycle, Semi-Diesel, Oil Engine (new product); 1 Weber Type A 50 h.p. Natural Gas Engine (new product); Weber Silencers for internal combustion engines; Weber Gas Filter for internal combustion engines.
Representatives: E. C. Noble, C. A. Snyder, J. D. Dillard, P. H. Gray, T. L. Chambers, Paul Perkins, Arthur Clifford, Arthur Clifford, Jr., S. B. Gold, B. E. Gold.

WEBER INSULATIONS, INC.
E. Chicago, Ind.

Outside Space.

WEBSTER ENGINEERING COMPANY
Tulsa, Oklahoma

Block O Open Air
Exhibit: Wilgus Regulators, Anubis Meters, Webster Gas Burning Equipment.
Representatives: Oscar F. Kluenter, Donald Torr, W. J. Combs, J. E. Farrand, L. S. Reagan.

WELDING ENGINEERING COMPANY
Bartlesville, Oklahoma

Exhibit: Latest Type combination truck and arc welders.
Representative: H. C. Price, President.

WERTZBERGER DERRICK COMPANY
Tulsa, Oklahoma

Outside Exhibit The Yellow Derrick on Drake Ave.
Exhibit: 122-foot Rotary Derrick using double extra strong 4½" pipe legs having an A.P.I. rating of 416,000 lbs. capacity; Calf Wheel and Bull Wheel posts displaying our new oil retaining bearings for the same; Dunham oil encased bearings for both crown block and pitman, patent rights now owned by the Wertzberger Derrick Co.; Fraser all steel Pipe Rig Front, the manufacturing and sales rights owned by this company; A part of the derrick top will also be shown down on the ground, showing in particular the special extra heavy 12" I-Beam, water table beams and the top and bottom castings of malleable iron.
Representatives: Geo. Bovee, Sales Manager, Tulsa; R. C. Beardon, Salesman, Seminole; H. H. Fortney, Salesman, Oklahoma City; C. M. Shugert, Salesman, Midland, Texas; Wm. Taylor, Salesman, Arkansas City, Kansas; Robt. Burris Sec. & Treas., Tulsa; Edw. F. Kelley, Chief Engineer, Tulsa; H. Ewing, Plant Supt., Tulsa; R. J. Wertzberger, Ass't Supt., Tulsa.

WEST COAST LUMBERMEN'S ASSOCIATION
Open Space, Lot M.
Representative: L. P. Keith.

WESTCO CHIPPEWA PUMP COMPANY
Davenport, Iowa

Booth No. 12 Arcade Building
Exhibit: Charging Pump, Reflux Pump, Hot Oil Pump.
Representatives: F. S. Main, Davenport, Iowa; I. I. Solzman, Tulsa, Oklahoma; W. J. Carr, Oklahoma City, Okla.

WESTCOTT & GREIS, INC.
Tulsa, Oklahoma

Booths Nos. 39-40-41-42 Scientific & Technical Building
Exhibit: Westcott Orifice Meters, Metric Domestic and Large Positive Meters, Davis Regulators, Metric Volume Controller, Hydrauger Boring Machine, Type "M" Reliance Regulators for automatic control of bottled gas, and general line of Reliance Regulators, Crosby Gages and Relief Valves, Westcott & Greis Tank Vents and Flame Arrestors.
Representatives: J. H. Saterwhite, F. I. Thompson, G. B. Smith, W. E. O'Meilia, H. W. Wahl.

WESTCOTT VALVE COMPANY
E. St. Louis, Illinois

WESTINGHOUSE ELECTRIC & MFG. CO.
E. Pittsburgh, Pa.

Booths Nos. 85-86-125-126-217 Oklahoma Building

WHEATLEY BROS.
Tulsa, Oklahoma

Outside Space.

WHITE COMPANY
Cleveland, Ohio

Exhibit: Six-cylinder White Model 61 truck, equipped with a Braden winch and typical Oklahoma oil field body for the lighter types of oil field service. Six-cylinder, 100-horsepower White Model 59A, equipped with a 2HC auxiliary transmission, Braden winch, air brakes and typical Oklahoma oil field body for the heavier types of oil field work. The 2HC auxiliary transmissnon will also be exhibited alone.
Representatives: A. K. Brumbaugh, Commercial Engineer; G. R. Gwynne, Transportation Engineer; R. W. Knowles, Transportation Engineer; M. D. Munn, Manager Technical Service; H. L. Rasmussen, Tulsa Branch Manager, and A. J. Scaife, Consulting Field Engineer.

WHITING CORPORATION
Harvey, Illinois

Booth No. 54 California Building

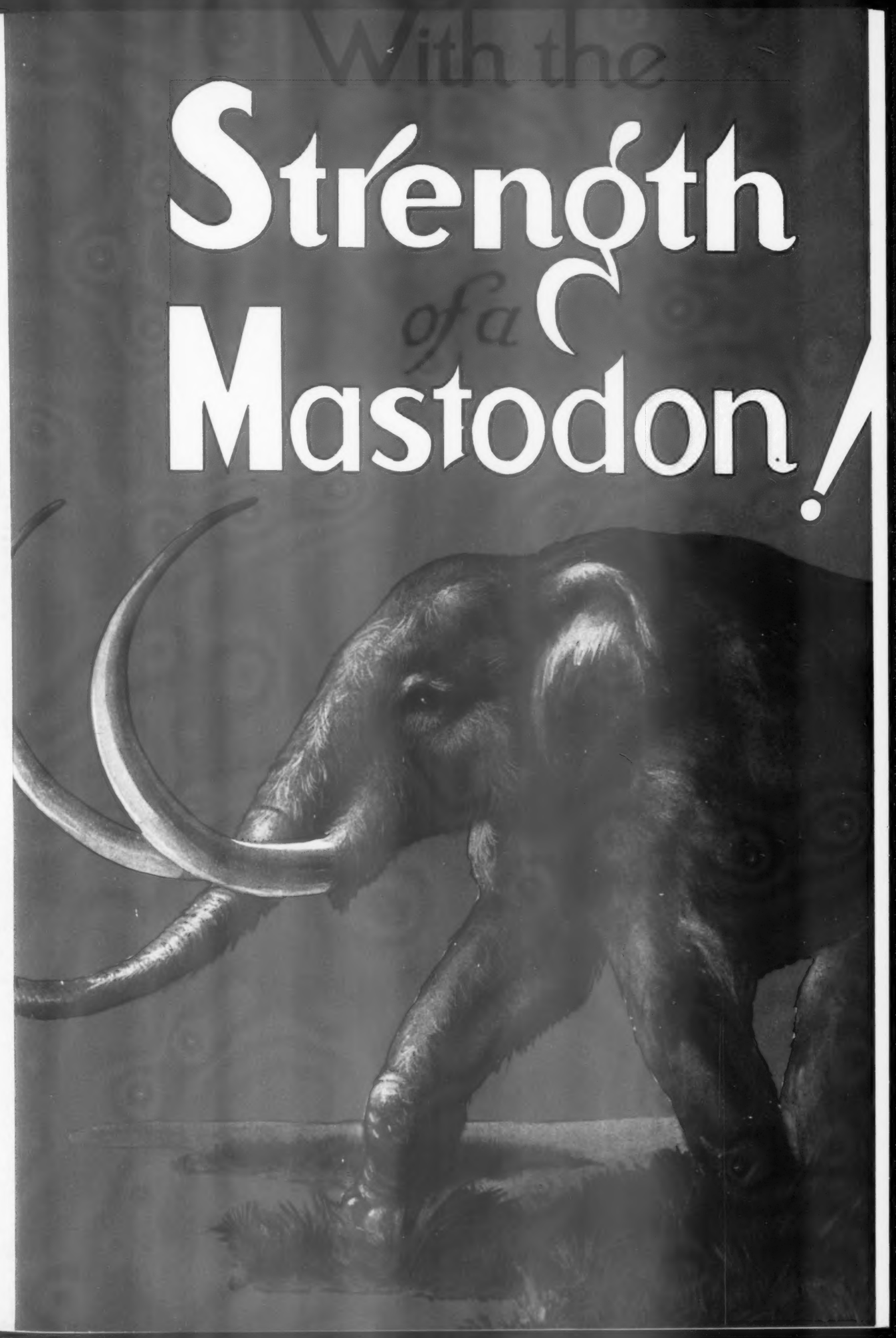
WHITLOCK CORDAGE COMPANY
Booths Nos. 46-59 California Building

WICO ELECTRIC COMPANY
Tulsa, Oklahoma

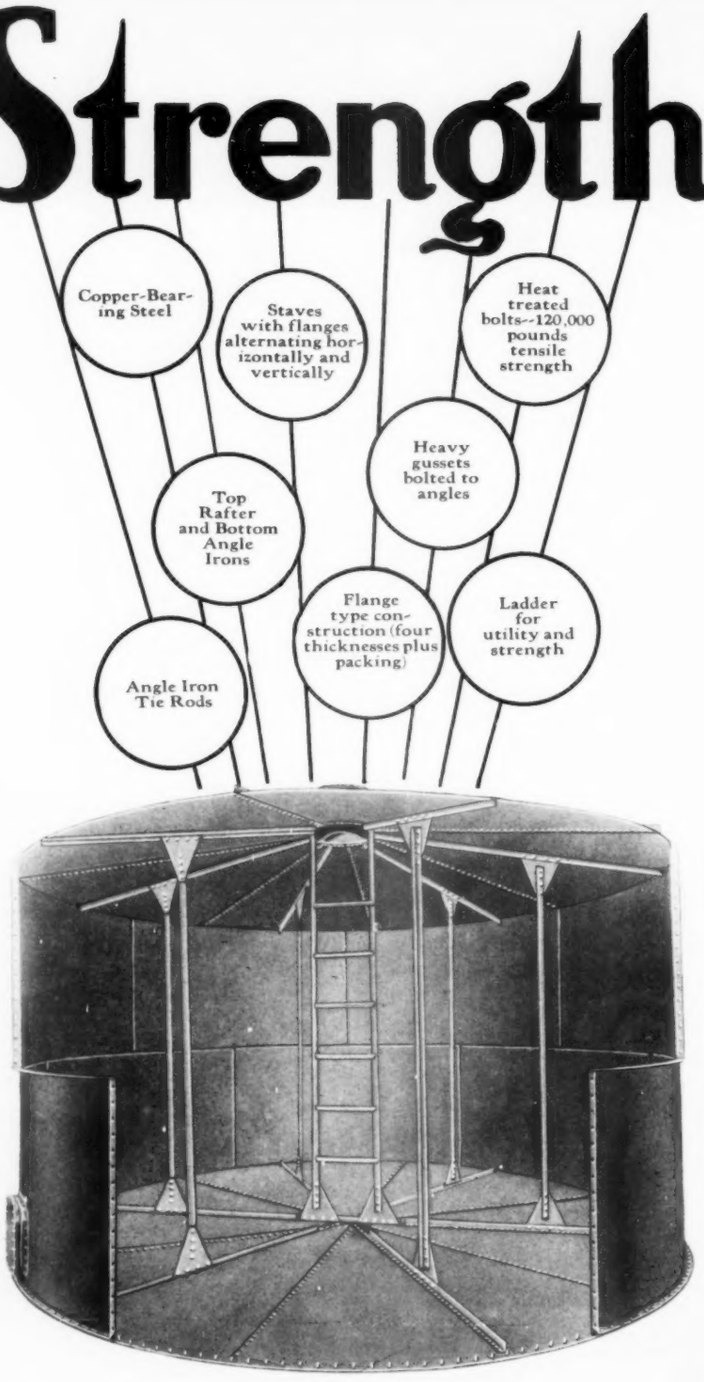
Boths Nos. 126-127 Oklahoma Building

WICKWIRE SPENCER SALES CORP.
Tulsa, Oklahoma

Booth No. 79 Oklahoma Building


With the
Strength
of a
Mastodon!

Strength


Copper-Bearing Steel
Staves with flanges alternating horizontally and vertically
Heat treated bolts--120,000 pounds tensile strength
Heavy gussets bolted to angles
Top Rafter and Bottom Angle Irons
Flange type construction (four thicknesses plus packing)
Ladder for utility and strength
Angle Iron Tie Rods

All the many small, yet vitally important details that go into the completed construction of the B. S. & B. Vapor Pressure Tanks give them added strength to make them the MASTODON OF TANKS.

Like this monster animal of strength they are equipped to battle with the forces of nature, to give you protection for your crude.

You save evaporation loss as well as the difference between high and low gravity crude since the lighter fractions are retained and thus well-head gravity is maintained.

The B. S. & B. Vapor Pressure Tanks predominate the oil fields of America, not only because of their MASTODON-like strength, but because of the service rendered in delivery and erection, portability, and general B. S. & B. Service.

There's an organization of trained erection crews, trucks, field stations (with large stocks), and a Fabricating Plant, centrally located (Kansas City), all awaiting word to serve you.

Only a very few hours after an order is placed the tank is on the ground — "Service on the Dot— Service on the Spot."

B.S.&B. Perfection Vapor Pressure TANKS

Here's the inside story of the B. S. & B. Vapor Pressure Tank (250 barrel size). See how it is built like a skyscraper. It is supported at all points of strain by major braces, cross-arms, etc. Such points of strength include the angle iron tie rods reinforced at top and bottom with gussets, the ladder, bottom angle and top rafter irons, flanged type construction, the heat-treated bolts, etc. All may seem to be trifles but "Trifles make PERFECTION" you know, and these trifles make the finished tank— a MASTODON in strength.

Equipped with Thief Hole Pressure Vacuum Valve

This valve operates at 16 ounces pressure or 2 ounces vacuum. It works automatically—and is constantly protecting your tank as the tank protects the crude. This is regular equipment on all B. S. & B. Vapor Pressure Tanks.

EFFICIENT B S & B SERVICE DEPENDABLE

Write Dept. X-10 and let us send you literature and a catalog, or have a representative call to tell you more about the B. S. & B. MASTODON-like Strong Tanks.

Our Watchword QUICK SERVICE

Black Sivalls & Bryson INC.

BARTLESVILLE - OKLAHOMA

BRANCHES

ARKANSAS
El Dorado

OKLAHOMA
Asher
Bartlesville
Blackwell
Bristow
Drumright
Duncan
Earlsboro
Garber
Hominy
Okla. City
Okmulgee
Sasakwa
Seminole
Shidler
Tulsa

KANSAS
Augusta
El Dorado
Eureka
Hillsboro
Hutchinson
Madison
Russell
Valley Center
Wichita
Winfield

TEXAS
Amarillo
Big Springs
Borger
Breckenridge
Cross Plains
Dayton
Electra
Fort Worth
McCamey
Midland
Pampa
Pyote
Ranger
Wink

WYOMING
Casper
Cody

MISSOURI
Kansas City

NEW MEXICO
Artesia
New Hobbs

MONTANA
Conrad
Kevin

FOREIGN
Canada
Okotoks, Alberta
So. America
Maracaibo, Venezuela

WIEMAN KAMMERER WRIGHT CO., INC.
Los Nietos, Calif.

Booths Nos. 63-64 — California Building

E. B. WIGGINS OIL TOOL COMPANY
Los Angeles, Calif.

Both No. 78 — Oklahoma Building

Exhibit: Wiggins Underreamers, Wiggins Reamers, Wiggins Yoke Type Roller Disc Bit, Wiggins Free Circulation Drill Pipe and Casing Protector, Wiggins Rubber Grip Rotary Hose Coupling, Wiggins Hose Clamp Gathering Device, Wiggins Hose Coupling Press, Wiggins Servicing Fixture, Wiggins Collapsed Casing Expander.

Representatives: E. B. Wiggins, George F. Yackey, J. H. Connolly, Glen Kettlewell, Ray Clary, Jesse Hibbs, Tom Ragan.

WILLARD STORAGE BATTERY COMPANY
Cleveland—Los Angeles—Toronto

Booth No. 93 — Oklahoma Building

WM. BROS. BOILER & MFG. CO
Minneapolis, Minn.

Open Space Lot 25′ x 30′, Lot 2

Representative: R. E. Martin, Agent.

WILSON & BENNETT MFG. CO.
Chicago, Illinois

Booth No. 39 — Refiners & Marketers Building

Exhibit: Por-Pail, Por-Can, Oil Drums, Grease Drums, Lithograph Steel Containers, Closing Machines.

Representatives: Harry LePan, H. A. Rogers, Earl Q. Griffis.

WIRT FRANKLIN PETROLEUM COMPANY
Ardmore, Oklahoma

Outside Space

ALFRED WIRTH
Germany

Booths Nos. 54-55 — S. & T. Building

WORTHINGTON MACHINERY CORPORATION OF OKLAHOMA
Tulsa, Oklahoma

Block L

Exhibit: Salt Water Pump, Centrifugal Pump, Direct Acting Steam Pump, Air Compressor.

Representatives: J. J. Summersby, F. B. Applegate, H. D. Cornell, F. W. Dye, J. E. Duffey, J. A. Lupfer, J. H. Feemster, J. O. Lewis, O. L. Olson, W. D. Smith, David Wallace, J. A. Grey, O. E. Smith, S. C. Ashcraft.

WORTHINGTON PUMP & MACHINERY CORP.
New York City, N. Y.

30′ x 40′ Open Space Lot, Block L

WYATT METAL & BOILER WORKS
Dallas, Texas

Booth No. 3 — California Building

YORK ICE MACHINERY CORPORATION
York, Pa.

Booth No. 60 — Marketers & Refiners Building

Exhibit: Section of vertical shell and tube ammonia condenser, Section of forge welded ammonia receivers. Samples of forge welded steel plates, Miscellaneous ammonia valves and fittings.

Representatives: W. R. McGinnis, W. L. Hutton, W. E. Becker, C. O. Fehl.

YOUNG ENGINE CORPORATION
Canton, Ohio

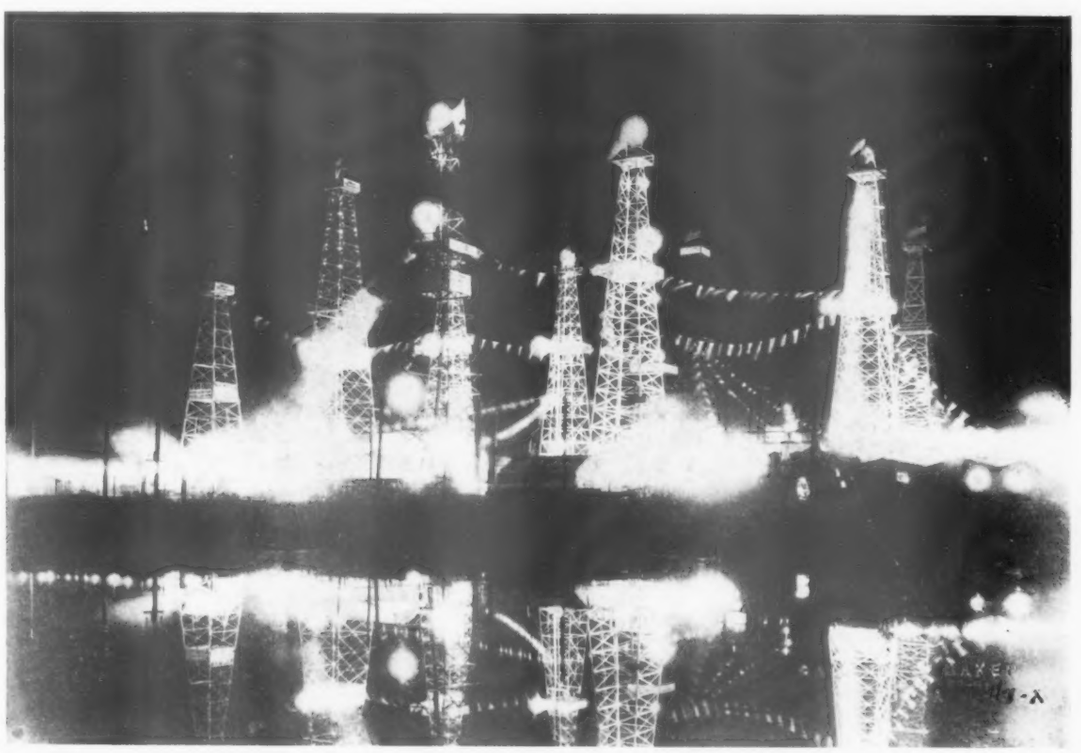
Booth No. 10 — Arcade Building

Exhibit: Diesel Drilling Engines, Gas and Gasoline Drilling Engines, Railroad Embankment and Road Boring Machines, Natural Gas Mixing Valves, Gas Engine Driven Generating Sets, Spudder Engines.

Representatives: Wm. T. Young, President; H. E. Cook, Representative.

JOHN ZINK
Tulsa, Oklahoma

Outside Space.



Danciger Gets Temporary Injunction *Against* Proration Order

FORT WORTH, Texas. — Legal action was taken by Danciger Oil & Refining Company of Texas against the Texas Railroad Commission as regards the enforcement of the latter's state-wide proration order of August 14 by obtaining a temporary injunction that will permit the plaintiff to produce its wells without restrictions. This attack on proration is the first to be made, although a number of operators and companies in various parts of the state have been silently ignoring the state-wide proration order when not dependent upon major pipe line companies for transportation and market outlet. Danciger Oil & Refining Company was granted the temporary injunction at Austin on September 25, after submitting a lengthy petition that outlined the basis for its plea for relief.

Failure of proration allowances earned by Danciger Oil & Refining Company from its properties in Gray County section of the Texas Panhandle to furnish an adequate supply of crude for the 5000-barrel refinery at Pampa of Petroleum Refractionating Corporation, an affiliated concern, was the principal reason offered in the petition for relief from the proration order. However, the plaintiff also alleged that proration was having a harmful effect on its wells in the Panhandle when back pressure is applied to curtail production.

Danciger Oil & Refining Company has producing properties in various sections of the state, having produced 371,581 barrels of oil during the second quarter of 1930, according to tax records at Austin. Unrestricted production privileges obtained by the company through the temporary injunction will only be used to the extent of supplying the oil requirements of the refinery, and from leases situated close to this plant. Therefore, the injunction is not of great importance, as special production concessions may be granted to owners of wells that offset those that Danciger Oil & Refining Company may elect to throw on a wide-open basis. Such a plan worked successfully when independents holding small tracts in the heart of the Hendrick field, West Texas, jumped proration restrictions through the temporary injunction route. The latter were never contested in the courts.

Potential production of the 11 oil producing leases held by Danciger Oil & Refining Company in the Texas Panhandle was 4037 barrels from 35 wells on September 15, according to figures compiled by Umpire H. J. Corcoran. These leases were assigned a production quota of 2145 barrels daily. Gray County is the principal stronghold of the company on production, as seven leases registered a combined potential of 3012 barrels from 27 wells, with a production quota of 1607 barrels daily.

Danciger's Viewpoint

Following is a brief resume of Joe Danciger's statement concerning his reasons for opposing the present proration program, as well as his views concerning the pipe line law of Texas:

"The pipe line law was intended to give equal outlet for each and every producer of oil. However, the pipe line law has never been complied with. It was enacted to provide an equal outlet for all producers through common purchaser pipe line companies, and not intended to curtail the opportunities for marketing and production.

"Proration does not affect all producers in the same manner, because most large companies can run their refineries on oil shipped in from their leases in other states and even other countries, and their business is not localized in one field or in one state.

"When proration was first discussed, it was proposed that curtailment should be 15 per cent; then 37 per cent was imposed, and now 59 per cent is contemplated. No business can be successfully conducted on such an arbitrary arrangement.

"In many instances, proration causes a more serious loss to operators than a cut in the price. However, there is no occasion for a cut in price since production is 500,000 barrels per day less than it was a year ago. The independent producers are not the ones that are over-producing, but the trouble lies in excessive drilling and building up enormous potentials in many fields throughout the country, and those having these enormous potentials are not seriously affected by prorating their wells as they run all they can anyway, whereas those operating in only one locality cannot exist under this program.

"It is our opinion that proration without cessation of drilling and building up enormous potentials is inconsistent and is based on a false foundation."

Texas Pipe Line Surrenders Central East Texas Crude Connections

Mexia, Texas.—Texas Pipe Line Company is surrendering all of its crude oil connections in Central East Texas to Pure Oil Pipe Line Company of Texas, subsidiary of Prairie Pipe Line Company, effective October 1. In previous years this fault zone district was one of the largest sources of crude supply for Texas Pipe Line Company, but depletion of the Woodbine sand has caused current oil runs to average only about 1200 barrels daily. Texas Pipe Line Company withdrew its lines from the Nigger Creek field, where about 150 barrels daily was being taken, several months ago.

Prairie Oil & Gas Company serves as the crude purchaser and marketer for Pure Oil Pipe Line Company of Texas, and it is reported that the former has arranged to sell all the crude diverted from Texas Pipe Line Company's system to Pure Oil Company, which is still delivering on its 33,333,333-barrel crude contract made November 17, 1921, with Continental Trading Company of Canada at a flat price of $1.50 per barrel. This contract was inherited by Pure Oil Company through the purchase of Central East Texas properties of the Humphreys Oil Company and subsidiaries.

Connections are now held by Texas Pipe Line Company in the Mexia, Wortham, Currie and Corsicana-Powell fields. Pipe and fittings turned over to Pure Oil Pipe Line Company of Texas will be exchanged in equal acounts by the latter from second hand stocks.

14 Hobbs Wells Add 16,000 Barrels Potential Daily

HOBBS, New Mexico.—Another heavy run of completions were scored in the Hobbs field late last week in order to qualify with production for the October proration period. Addition of 14 new wells, including five that were credited with a potential output of more than 16,000 barrels daily each, has virtually assured the field close to 1,000,000 barrels estimated potential output before the close of 1930, while two-thirds of the latter figure will probably be reached by November 1. A steady shrinkage in drilling activity is taking place in the Hobbs field because of completions being made in greater numbers than new locations. Early this week the field was credited with only 44 operations, including seven derricks and rigs, and 37 active tests. Three of the latter have been shutdown on top of the first lime horizon by agreement among offset lease owners, rather than to complete an extra well on a unit already on production.

Continuation of a reasonable volume of drilling activity is now dependent upon Hobbs operators launching outpost tests from the known oil area. Operators have been slow, as well as extremely cautious, in stepping out from the beaten path, and apparently are afraid of dry holes. Most of the recent new locations were staked along the flanks of the "high," but not in excess of one-half mile from production. The field has been proven in a northwest to southeast trend for a distance of slightly more than six miles, with a maximum width of two miles. The most favorable trend of production is to the northwest, and it is quite likely that some pioneering will be attempted shortly in this direction. The north half of the field is broader er in area, as well as the most prolific. Efforts of Hobbs-High, Inc. (Harrison et al) to extend the field to the east side of the Hobbs townsite, and more than one mile from production through the drilling of Tatum 1, Section 35-18s-38e, will probably reach a climax within the next ten days. This lone outpost test was drilling at 4100 feet early this week.

Five rigs is the maximum volume of field work conducted now by any single operator in the Hobbs field. Midwest Refining Company, discoverer of the field, and Shell Petroleum Corporation are the only two concerns that have the above number of rotaries in operation. All producing companies in the field have one or more new tests underway, excepting Landreth Production Corporation et al, which has temporarily halted development work after placing production on each of its 40-acre units.

Completions made during the past week of particular importance were scored along the west line of section 28-18s-38e, or in the north by east portion of the field, by Shell Petroleum Corporation and Prairie Oil & Gas Company. Previous completions made on nearby acreage and closer to the high section of the field furnished some small caliber wells, and caused some doubt to be held for these edge tests coming through. Shell Petroleum Corporation's Grimes 2, northwest corner SW Section 28, furnished a surprise by gauging 307 barrels fluid, three per cent cut, when tested one hour through three-inch tubing, and when given an official one hour open flow gauge earned a potential of 18,605 barrels daily. This heavy producer is only a short distance northeast of Tidal Oil Company's Grimes 1, which has been the largest well in the field and came through with a revised gauge of 20,993 barrels daily on September 26, although more than 200,000 barrels of oil has been withdrawn.

Gas Production Heavy

Unusually heavy gas production was developed with the oil flow by Shell Petroleum Corporation's W. D. Grimes 1, SWc Section 28-18s-38e, as this well was credited with 59,000,000 clubic feet of gas and 6156 barrels of pipe line oil when given proration test September 22 at a total depth of 4175 feet, with three-inch tubing swinging at 4165 feet. Prairie Oil & Gas Company's W. D. Grimes 1, located in the SWc of the NW¼ Section 28-18s-38e, flowed 356 barrels oil on first hour, with the daily gas flow rated at 10,752,000 cubic feet. The latter well has a total depth of 4191 feet.

Ohio Oil Company and Phillips Petroleum Company, joint owners of the SE Section 32-18s-38e, have added their fourth heavy producer on the State-Northrup lease by the completion of No. 4 with an initial flow of 19,176 barrels

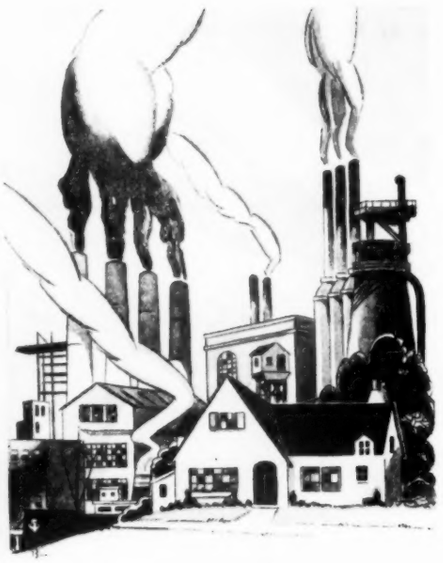
(Continued on page 188)

HOBBS FIELD, NEW MEXICO, OPERATIONS

Operator—	Drilling Tests	Derricks & Rigs	Locations	Totals
Amerada Petroleum Corporation	2	.	.	2
Atlantic Oil Producing Company	1	.	.	1
The California Company	2	.	.	2
The California Company et al.	1	.	.	1
Continental Oil Company	4	.	.	4
Empire Gas & Fuel Company	.	2	.	2
Geo. F. Getty Oil Company	1	.	.	1
Gypsy Oil Company	1	.	.	1
Hobbs-High, Inc.	1	.	.	1
Humble Oil & Refining Co.	3	1	.	4
Humble-Kirby Petroleum Co.	1	.	.	1
Midwest Refining Company	5	.	.	5
Ohio Oil Company	1	.	.	1
Ohio-Independent Oil & Gas Company	1	.	.	1
Prairie Oil & Gas Company	1	1	.	2
Shell Petroleum Corporation	5	.	.	5
Skelly Oil Company	.	1	.	1
Sun Oil Company	2	.	.	2
The Texas Company	2	.	.	2
Texas Pacific Coal & Oil Co.	1	.	.	1
Tidal Oil Company	2	1	.	3
Vacuum Oil Company	.	1	.	1
Total	37	7	.	44

Heralding a New Era of Industrial Power

Natural Gas



Looming ever larger on the industrial horizon is Natural Gas, heralding a new era of "Heat Power" to Industry. Plant managers and engineers have for some time admitted the economy and flexibility of this modern fuel. Now they are turning to it in increasing numbers, because today's field and pipe line developments assure them on the one final question—an *adequate, dependable supply* of the product.

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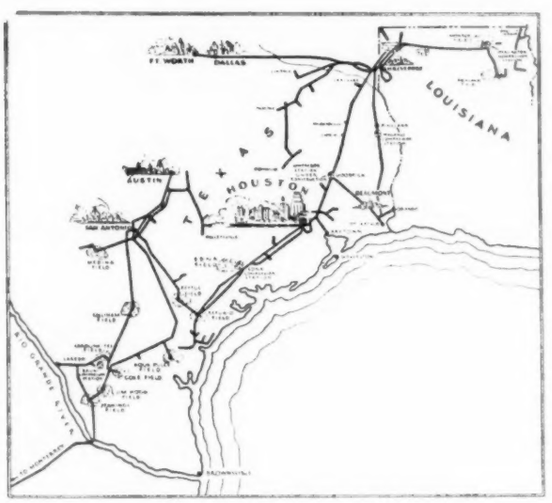
The map at the right briefly outlines the extent of Natural Gas System service —a system that is being constantly expanded to keep a pace ahead of the demands of industries and homes which it serves.



UNITED GAS SYSTEM

RUNCU FIELD, ROUMANIA

WORLD PETROLEUM IN REVIEW

Maracaibo, Venezuela. — The Maracaibo section of the American Association of Petroleum Geologists held its regular monthly meeting September 2 for the purpose of electing officers for the coming year. Two important papers were presented which discussed the chemical analysis of water obtained from Lake Maracaibo. Wm. H. Spice of Lago Petroleum Corporation was elected president of the organization which is a recognized branch of the American Association with headquarters at Tulsa, Oklahoma.

Maracaibo, Venezuela.—Drilling and exploration operations are being carried on by 14 different companies in as many districts of Venezuela, widely separated. Many of the fields have been proven within the last few months and others have turned out to be failures. (See "Ten Potential Oil Fields on Venezuelan Horizon," THE OIL WEEKLY, May 3, 1929.)

Mexico City, Mexico.—Intense interest is being shown in the wildcat operations in the northern part of Mexico since the discovery of the first producing well in the State of Nueve Leon the first week in September. Several other tests are being drilled to ascertain the potential of the field.

Bogota, Colombia.—Operations for the first seven months of 1930 showed 73 producing wells completed for an initial production average of 674 barrels. Total production for the period from all fields amounted to 11,845,348 barrels.

Maracaibo, Venezuela.—Creole Petroleum Corporation's Las Palmas 9 has been completed for an initial flow of 1400 barrels daily. This is the second producer of very light oil in the vicinity of Dabajuro field, gravity of the oil being 37°.

Bucharest, Roumania.—A fire broke out August 31 at Chichiura Valea Stapilor, resulting in the firing of five wells and seven reservoirs. One fatality resulted. Damage was estimated at about $415,000.

Tokio, Japan.—Construction work has been started on a new plant at Kimsui to produce gasoline from natural gas At present there is reported to be a daily flow of 30,000,000 cubic feet of gas from one well in this basin, a source from which the producers expect to obtain 14,400 gallons of gasoline.

Maracaibo, Venezuela.—Production of crude oil in Venezuela for the month of August aggregated 11,378,274 barrels, a daily average of 367,041 compared with 11,624,070 barrels or a daily average of 374,970 in July. Production in the first eight months of this year totaled 90,443,131 barrels, or 223,849 barrels more than was produced in the corresponding 1929 period.

Cairo, Egypt.—Egyptian production of petroleum during 1929 amounted to 1,900,000 barrels, a record figure. The bulk of this came from the northern part of the Hurghada field, where drilling is constant. A deeper sand was discovered in the eastern extension of the field last year, yielding water-free oil.

Bogota, Colombia.—A thorough study is being made of the reorganization of the government departments in the interest of economy and greater efficiency, by President Herrera and his cabinet. The Minister of Industries, Francisco Chaux, a Liberal, was a member of the committee that studied oil legislation last year. His knowledge of the native oil resources will be invaluable to the department and will help him to carry out his ideas of practical

operation of the oil fields and his attitude of fairness in dealing with all phases of the oil industry. (See "International Conference on New Colombian Oil Law," THE OIL WEEKLY, May 24, 1929; also THE OIL WEEKLY, June 7, 1929; and THE OIL WEEKLY, December 13, 1929, pages 131 and 97.)

Paris, France.—Raffinerie du Nord, the Union des Mines and the Petrofina have entered into a merger with a capitalization of approximately $4,000,000, to build a 6000-barrel refinery at Dunkirk.

Maracaibo, Venezuela.—Figures compiled on August 1, 1930 show less than one per cent of failures in wells drilled in the Ambrosia, La Rosa, Punta Benitez and Lagunillas fields. Out of a total of 1478 wells drilled in this area up to August 1, a total of 1411 wells were brought in as producers. Of the 16 other fields where production has been encountered, 767 wells drilled show 584 producers and 183 dry holes. A total of 2245 wells have been drilled in all fields of this country with a total of 1995 producers and only 250 dry holes.

Buenos Aires, Argentine.—The appointment of Captain Felice Fleiss of the navy as director general of the Y. P. F. is expected to bring a decided change in the policies of the government with reference to nationalization of the petroleum industry. He previously served in this capacity for four years and the success of his administration in the former period promises to be a repetition of those successes.

Maracaibo, Venezuela.—The contribution of Venezuela toward the eventual stabilization of the present world-wide petroleum over-production situation is evident in the curtailment in all fields of this country. The estimated potential of all fields now producing is 593,000 barrels per day while the amount of oil actually being produced is only 383,500 barrels or approximately two-thirds of the daily potential. More than 70 per cent of this total is being produced by the Ambrosio, La Rosa and Lagunillas fields.

Mexico City, Mexico.—Commerce reports show that the oil and export taxes for September remain unchanged from August, a tax of 14.864 cents a barrel being levied on light crude and 8.585 cents being the tax for heavy crude. Combined production and export taxes are 22.813 cents a barrel on light crude and 13.513 cents on heavy crude.

Maracaibo, Venezuela.—Colon Oil Corporation's subsidiary brought in well T-68 producing 1015 barrels per day on a five-eighths-inch flow plug with a casing pressure of 175 pounds and tubing pressure of 105 pounds.

Sydney, Australia.—The Federal government of Australia is planning to return to a shale oil bounty in an endeavor to establish extraction of oil from domestic shale on a commercial basis. Several companies have been formed to work deposits in New South Wales.

Berlin, Germany.—Harry F. Sinclair, after a recent investigation of the German oil industry, told the press he had decided to enter the oil producing field in the Hanover-Oldenburg district. (See THE OIL WEEKLY, "American Group Enters German Oil Fields," April 25, 1930, and "Extent and Value of German Petroleum Deposits Unknown," May 23, 1930)

A. I. M. M. E. Fall Meeting in Los Angeles Has Good Program

LOS ANGELES.—The fall meeting of the petroleum division of American Institute of Mining and Metallurgical Engineers will be held in Los Angeles, Friday, October 17, an unusually heavy program having been arranged for the one-day session. Through the courtesy of California Oil & Gas Association, the rooms of this organization at 510 West Sixth Street will be used for the morning and afternoon sessions. A dinner will be given at 6:30 at the University Club, 614 South Hope Street, to be followed by the evening session at the same location. The program follows:

Friday morning, 9:30, registration at Room 517, 510 West Sixth Street. (Chairman, V. H. Wilhelm, associate vice-chairman petroleum engineering, A.I.M.M.E.)

1. "Development of Casing for Deep Oil Wells," by F. W. Brenner, Spang, Chalfant Company; to be read by F. E. Patton.

2. "Properties and Treatment of Rotary Mud," by Hallen N. Marsh, production engineer, General Petroleum Corporation.

3. "Effect of Bottom Hole Beaning," by W. A. Clark, engineer, The Texas Company.

4. "Velocity of Flowing Through Tubing," E. L. Davis, petroleum engineer, The Texas Company.

5. "Microscopic Study of California Oil-Field Emulsions," by Mahmood Abozeid, Cairo, Egypt; to be read by V. H. Wilhelm.

Friday afternoon, October 17, 2:00 o'clock, Room 517, 510 West Sixth Street. (Chairman, L. L. Brundred, associate chairman, A.I.M.M.E.)

1. "Effect of Edgewater on the Recovery of Oil," by H. H. Wright, Gypsy Oil Company, Tulsa, Oklahoma.

2. "Encroachment of Edgewater in Santa Fe Springs," by D. K. Weaver, petroleum engineer, The Texas Company.

3. "Water Problems of the McKittrick Field," by Joseph Jensen, chief petroleum engineer, and J. B. Stevens, petroleum engineer, Associated Oil Company.

4. "Development Program of a Portion of Ventura Avenue Field," by Joseph Jensen, chief petroleum engineer, and F. W. Hertel, petroleum engineer, Associated Oil Company.

5. "The Control of California Oil Curtailment," by R. E. Allen, assistant to Umpire H. P. Grimm.

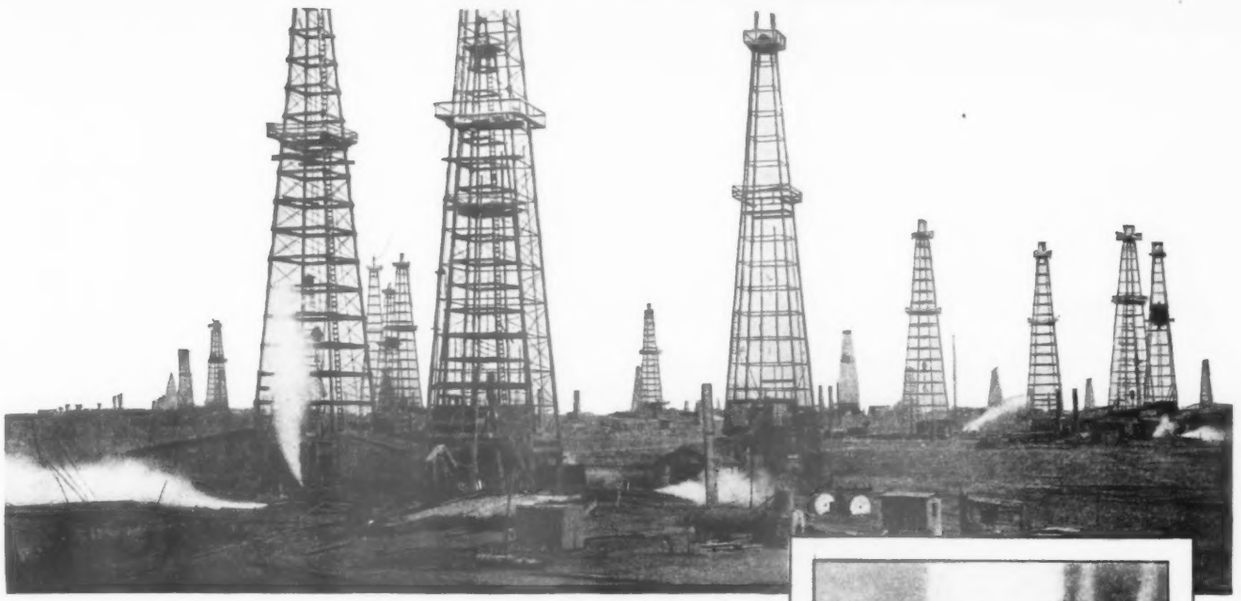
Night session, Friday evening, October 17, dinner, University Club, 614 South Hope Street, 6:30, the evening program to follow at 7:30.

1. "Place of Unit Operation in Adjusting United States Production to World Markets," by Joseph E. Pogue, consulting economist, New York City.

2. "Unit Operation for Kettelman Hills," by Robert C. Patterson, supervisor U. S. G. S., Taft, California.

Shreveport Geological Society to Meet

Shreveport.—The Shreveport Geological Society which defers its monthly business meetings during the summer months will hold its first fall meeting October 3, when officers for the ensuing year will be elected. M. W. Grimm of Tidal Oil Company is now president. The membership embraces petroleum geologists in North Louisiana, South Arkansas and East Texas. Weekly luncheons at which no business is transacted are held on Mondays.



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Markets--Production--Crude Prices

H. J. STRUTH, *Staff Economist, Houston, Texas*

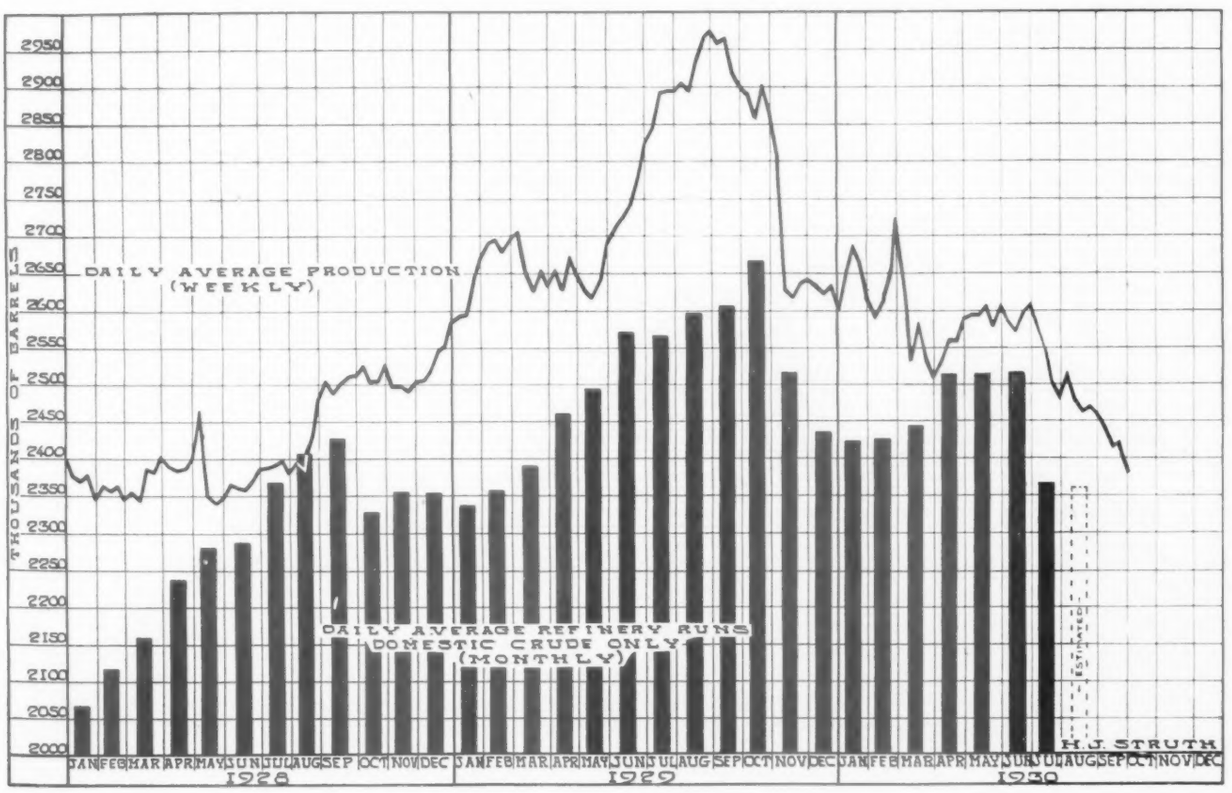
Crude Production Within 21,000 Barrels of Economic Quota

A FURTHER decline of 32,050 barrels in last week's daily average crude oil production of the United States brought the curve down to the lowest point since August 1928. Production estimates of the American Petroleum Institute show that the total production is now down to 2,389,750 barrels daily, or only 21,143 barrels in excess of the national economic limit set by the combined curtailment schedule.

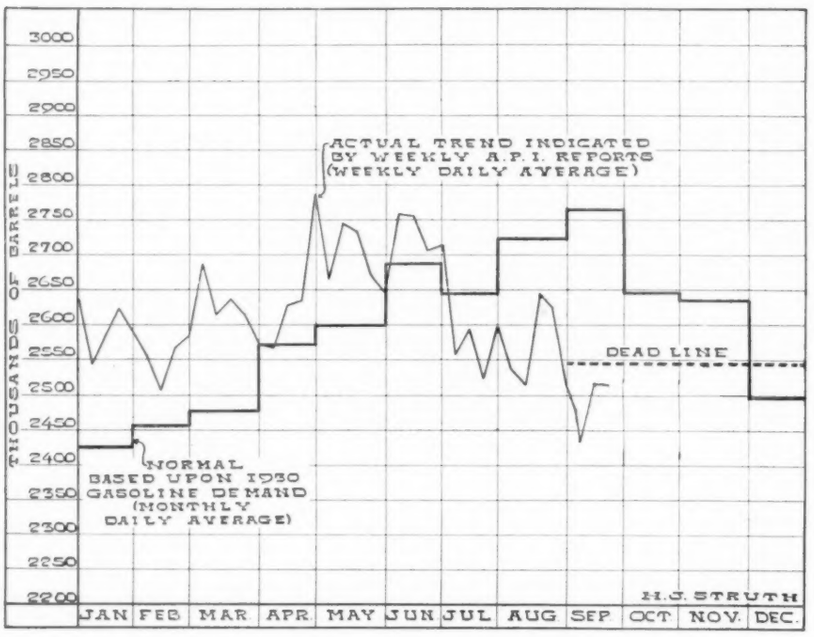
The only adverse factor in the situation last week was another upturn in refinery runs, which were shown by the American Petroleum Institute to have aggregated 17,512,000 barrels or a daily average of 2,501,000 barrels. Converted to a Bureau of Mines basis, this figure indicates that refinery runs must have totaled approximately 2,576,000 barrels during the week ending September 27. This is the most abrupt upturn in still runs since the week of August 16 and represents a net increase since September 6, the low point for the year, of 143,000 barrels daily. Gasoline stocks as of September 27 aggregated 37,222,000 barrels, a decline of only 38,000 barrels during the week ending on that date. It is readily seen that the sudden upturn in still runs constitutes a most unfavorable factor and further emphasizes the need for stringent measures of curtailment.

The season of peak gasoline demand is practically at an end for the year, and the only relief for the refining branch of the industry lies in the direction of sharp curtailment

DOMESTIC PRODUCTION AND REFINERY RUNS



RUNS OF CRUDE OIL TO STILLS



of still runs. Gasoline stocks are still unwieldy, and any gain in production at this time can only result in further weakness in the gasoline market. Unless immediate steps are taken to materially lower refinery still runs, there will be little hope for market improvement during the early part of next year. There is no immediate necessity for storing gasoline, since the quantity on hand is more than sufficient to meet all emergency requirements. It is obvious that present gasoline stocks obviate the necessity for building up production at this time to meet the demands of next spring; the sane course dictating a policy of maintaining production at the level prescribed by current market requirements, or less, where individual stocks are more than adequate reserve for future needs.

Flush Areas Curtailed

Of particular interest at present is the fact that most of the flush producing states have brought production down to or below the limits prescribed by proration schedules. California's production is now 594,000 barrels daily, or at the exact point set as the limit for that state. The fact that this has been accomplished there is conclusive proof that it is possible to control production and indicates the possibility that this figure can be lowered to the new limit of 540,000 to 550,000 barrels, recently proposed. Oklahoma's production is now only 9000 barrels a day above the limit of 550,000 barrels set for that state. Texas has, in the meantime, succeeded in reducing the daily average crude production to 764,750 barrels, or about 10,000 barrels a day below the limit set by the Texas Railroad Commission. The fact remains, however, that the limit was formerly set at 750,000 barrels, but through postponement of proration in the Gulf Coast the total for the state was automatically raised to about 775,000 barrels. If the figure of 750,000 barrels daily is again ordered effective by the Railroad Commission at the expiration of the 30-day period of grace in the Gulf Coast, it is readily seen that Texas operators will be obliged to bring production down another 14,000 barrels daily. Internal friction among operators in the North Texas and Panhandle area is causing some apprehension as to the immediate outcome of proration in those sections. It is apparent, though, that regardless of what may or may not be done to overthrow curtailment in Texas, operators must endeavor to hold their production in line

CRUDE RUNS TO STILLS, GASOLINE AND GAS AND FUEL OIL STOCKS, WEEK ENDING SEPT. 20, 1930

(Figures in barrels of 42 gallons)

District	Potential Daily Capacity	Potential Capacity Reporting Total	Potential Capacity Reporting Per cent	Crude Runs to Stills Total	Crude Runs to Stills Daily Average	Crude Runs to Stills Per cent Operated	Gasoline Stocks	Gas and Fuel Oil Stocks
East Coast	608,700	608,700	100.0	3,197,000	456,700	75.0	5,492,000	11,341,000
Appalachian	128,100	117,600	91.8	653,000	93,300	79.3	1,091,000	1,125,000
Indiana, Illinois, Kentucky	382,500	381,000	99.6	2,125,000	303,600	79.7	5,542,000	4,443,000
Oklahoma, Kansas, Missouri	462,200	412,700	89.3	1,857,000	265,300	64.3	2,524,000	4,881,000
Texas	788,000	712,700	90.4	4,057,000	579,600	81.3	5,695,000	10,719,000
Louisiana-Arkansas	270,600	262,000	96.8	1,109,000	158,400	60.5	1,117,000	2,094,000
Rocky Mountain	148,900	139,300	93.6	366,000	52,300	37.5	1,832,000	1,187,000
California	897,400	891,400	99.3	3,722,000	531,700	59.6	13,967,000	104,586,000
Total Week Sept. 20	3,686,400	3,525,400	95.6	17,086,000	2,440,900	69.2	37,260,000	140,376,000
Total Week Sept. 13	3,686,400	3,525,400	95.6	17,124,000	2,446,300	69.4	37,832,000	140,875,000
The Total U. S. Figures for Last Year, Shown Immediately Below, are not Comparable With this Week's Totals Because of Difference in Percentage Capacity Reporting.								
Total Sept. 21, 1929	3,404,700	3,200,400	94.0	19,227,000	2,746,700	85.8	32,402,000	*142,792,000
The Texas and Louisiana Gulf Coastal Figures Shown Below are included Above in the Totals of their Respective Districts.								
Texas Gulf Coast	526,500	526,500	100.0	3,085,000	440,700	83.7	4,498,000	7,867,000
Louisiana Gulf Coast	147,500	147,500	100.0	758,000	108,300	73.4	836,000	1,377,000

* Final Revise.

or suffer the consequences of further demoralization of the price structure.

While there has been remarkable improvement in the over-production situation in practically all areas of the United States, it is apparent that the underlying economic situation has been materially weakened through persistent price-cuttings practices. Not only are many producers willing to market oil at sacrifice prices, but an increasing number of purchasers are offering prices ranging up to 30 cents a barrel less than prevailing posted prices. Particularly is this true in the Panhandle and North Texas, where conditions have reached the stage that makes a price reduction seem on the threshold of materialization. If a price cut does come, it will not be because of impairment in the statistical position of the industry, but because of the increasing tendency of operators to dump their oil at bargain prices.

All Areas Off

Another interesting phase of last week's production statistics was the fact that every major producing area of the United States showed a decrease in daily average production for the week. Oklahoma registered a decline of 4600 barrels daily; Texas outside of the Gulf Coast, 2450 barrels daily; Gulf Coast 2800 barrels daily; Rocky Mountain 1200 barrels daily and California 19,300 barrels daily. Other areas including Kansas, North Louisiana, Arkansas and Eastern States registered declines ranging from 50 barrels to 650 barrels daily. Reports from individual fields revealed only a few gains in production which were more than offset by declines in other sections of respective producing states. Chief among the increases reported were Oklahoma City, with a gain of 5550 barrels daily; Playa del Rey, California, 1200 barrels daily; Voshell, Kansas, 1350 barrels daily; Vinton, Louisiana, 3900 barrels daily; El Dorado, Arkansas, 1000 barrels daily and Salt Creek, Wyoming, 1450 barrels daily.

What the oil industry of the Mid-Continent area has accepted as proof of a reduction in the price of crude oil came Monday with a reduction in the price of gasoline in the territory of the Standard Oil Company (Indiana). A statement given Saturday by E. G. Seubert, president of the company, was to the effect that the reduction had to be made to meet selling by other companies, much of it representing the plight of distressed gasoline from small plants. The reduction was two cents a gallon both tank wagon and service station for gasoline and kerosene.

While Standard Oil Company (Indiana) has not previously been active in crude price changes, its sole ownership of the former Sinclair pipe line and crude oil purchasing units, now places this unit in a different position as regards crude oil. Its runs from Oklahoma are around 90,000 barrels daily.

The reduction in gasoline had been anticipated for several weeks. Many felt that it would come shortly after Labor day. The fact that it was almost a month late never removed the fear that it would come.

Previous to this reduction by Standard Oil Company (Indiana) Standard Oil Company of New Jersey made reductions in gasoline prices in some of its territory.

The immediate status of production in Oklahoma remains

HOW LAST WEEK'S DAILY AVERAGE PRODUCTION COMPARES WITH NECESSARY AND NORMAL QUOTA LIMIT

	Necessary Daily Average 3rd Quarter 1930	Quota Limit Prescribed to Correct Previous Excesses	Actual Daily Average Week Ending September 27, 1930	Excess
Arkansas	62,431	62,431	53,600	—8,831
California	664,149	594,000	594,300	300
Kansas	120,222	105,554	116,650	11,096
Louisiana	60,116	58,749	69,050	10,301
Oklahoma	669,115	550,000	559,000	9,000
Texas	839,361	775,000*	764,750	—10,250
Balance of U. S.	230,000	230,000	232,400	2,400
Total	2,645,394	2,368,607	2,389,750	21,143

*Limit set by R. R. Commission beginning August 27.

IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

(Barrels of 42 gallons)

	Week Ended Sept. 20	Week Ended Sept. 13
At Atlantic Coast Ports		
Baltimore	209,000	298,000
Boston	133,000	96,000
New York	1,008,000	812,000
Philadelphia	220,000	153,000
Others	144,000	*268,000
Total	1,714,000	1,627,000
Daily Average	244,857	232,429
At Gulf Coast Ports		
Galveston District	63,000	65,000
New Orleans & Baton Rouge	84,000	32,000
Port Arthur & Sabine District	.....	.....
Tampa	.....	35,000
Total	147,000	132,000
Daily Average	21,000	18,857
At All United States Ports		
Total	1,861,000	1,759,000
Daily Average	265,857	251,286
Daily Average Four Weeks Ended	271,000	287,357
Distribution of Total Imports is as Follows:		
Crude	1,306,000	853,000
Gasoline	.....	582,000
Kerosene	.....	35,000
Fuel Oil	555,000	*289,000
Total	1,861,000	1,759,000

*Revised.

CALIFORNIA OIL RECEIPTS AT ATLANTIC AND GULF COAST PORTS

(Barrels of 42 gallons)

	Week Ended Sept. 20	Week Ended Sept. 13
At Atlantic Coast Ports		
Baltimore	27,000	81,000
Boston	.....	.....
New York	75,000	*158,000
Philadelphia	78,000	96,000
Others	39,000	37,000
Total	219,000	372,000
Daily Average	31,286	53,143
At Gulf Coast Ports		
Total	.....	*73,000
Daily Average	.....	10,428
At Atlantic & Gulf Coast Ports		
Total	219,000	445,000
Daily Average	31,286	63,571
Daily Average Four Weeks Ended	67,036	76,964
Distribution of Total California Receipts is as follows:		
Gasoline	216,000	*445,000
Lubricants	3,000	.....
Total	219,000	445,000

*Revised.

Weekly Comparisons of Permits Granted for New Wells

States—	Week Ending September 27	Previous week	This week 1929	Total this month	This month 1929	Total this year	Total this date last year	1929 year total
Arkansas	2	3	4	15	11	81	120	159
California	25	31	25	94	59	666	963	1,231
Louisiana	18	14	26	58	81	773	656	903
Kansas	9	13	22	52	81	772	839	1,079
Oklahoma	34	36	121	141	343	2,337	2,670	3,578
Texas	108	125	172	466	653	5,890	6,597	8,697
Total	196	222	370	826	1,228	10,519	11,845	15,647

in doubt because the proration committee of the Mid-Continent Oil & Gas Association has been withholding its schedule in the hope of having a decision in the Julian case now before the Oklahoma supreme court. The schedule has been completed but not made public. It is known, however, that it will provide for some additional outlet for oil from the Oklahoma City field. But the method of provision is not publicly known.

What Oklahoma oil producers are looking forward to now is the completion of the two pipe lines into the Middle West. The Ajax line of Standard Oil Company of New Jersey and the Gulf line to Pittsburg are expected to afford some additional outlet by the early part of 1931.

Pure Oil Company has bought an interest in the Ajax line and will have use of it for the delivery of crude to plants in Ohio and perhaps West Virginia. Along with this transaction it was announced that the Humble Pipe Line Company would build a line from the Van field, Texas, to the Standard Oil Company of Louisiana refinery at Baton Rouge, Louisiana.

Wichita Falls. — Introduction of individual crude price schedules by North Texas refiners late in September is considered an open challenge directed at major crude purchasing companies that are curbing their oil takings and refusing all new connections offered. Independent plant owners in this important Mid-Continent center are supplying their crude requirements at an average price of 25 cents per barrel less than the posted price of major companies. These refiners are shading their quotations on manufactured products to conform with their reduced priced crude in order to maintain normal plant operations in the face of a dull market.

Independent producers are contributing to this breakdown of the high gravity oil price structure in order to obtain market relief that has been ignored by major companies since the attempt to enforce the state-wide proration order of the Texas Railroad Commission.

Maximum Takings Reduced

The North and Central West Texas light oil area was assigned a maximum production quota of 121,000 barrels daily by the commission's order, but due to major buyers cutting down their takings the district only averaged 107,-

(*Continued on page* 187)

Summarized Review of Field Results

	Completions This week.	Completions Last week.	Oil Wells This week.	Oil Wells Last week.	Gas Wells This week.	Gas Wells Last week.	Failures This week.	Failures Last week.	Initial Prod. This week.	Initial Prod. Last week.
Arkansas	2	3	2	3	..	..	..	..	35	439
California	20	14	16	12	..	..	4	2	19,105	5,500
Illinois	1	2	1	1	..	..	..	1	45	12
Indiana	6	3	1	..	2	2	3	1	2	..
Kansas	12	20	5	1	1	10	6	9	2,885	55
Kentucky	11	13	3	5	1	4	7	4	15	100
Louisiana	15	32	5	12	5	11	5	9	1,771	6,065
Michigan	13	5	9	5	..	..	4	..	1,115	1,025
Mississippi	4	2	..	..	3	1	1	1	..	..
New Mexico	16	8	16	8	..	..	..	..	147,860	42,720
New York	4	5	4	5	..	..	..	..	11	14
Ohio	26	32	7	9	12	15	7	8	51	254
Oklahoma	56	51	38	24	7	4	11	23	102,906	179,968
Pennsylvania	25	26	23	23	1	2	1	1	148	74
Tennessee	..	3	..	..	..	3	..	..	..	..
Texas	110	77	67	38	3	7	40	32	62,602	25,774
West Virginia	..	27	..	8	..	17	..	2	..	120
Total	321	320	197	154	35	73	89	93	338,551	262,120
Increase this week	1	..	43	..	..	..	..	..	76,431	..
Decrease this week	..	..	..	..	38	..	4	..	..	..

HIGH PRESSURE FORGED STEEL FITTINGS

All OCT fittings are made of the best steel available for each individual part. Fittings are gauged when machined and again before crating for shipment. All threads up to 6-inch are A.P.I. line pipe, and 6 to 12-inch threads are A.P.I. casing thread, unless otherwise specified. The line includes every fitting necessary for a Christmas-Tree hook-up, each of which is tested against pressures exceeding the highest encountered today.

OCT products are on display in Booth Nos. 51-52, California Bldg., of Iverson Tool Company
AT THE INTERNATIONAL PETROLEUM EXPOSITION, TULSA, OCTOBER 4-12.

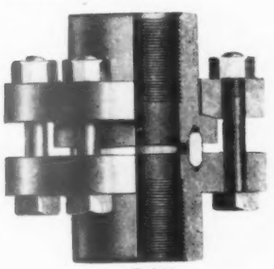
The OCT Slush Pump Liner is an extra long liner especially adapted for use with Rubber Type Pistons. It is made through a slow machining process on an engine lathe and ground smooth inside to minimize wear on the Piston. These liners are stocked by Texas Rubber Specialty Company, Houston.

The OCT Forged Steel Combination Flow Choke has an inserted bean made of tool steel and heat-treated. It can be changed in three minutes because no lines need be disconnected.

The OCT Forged Steel Flange Union with renewable bronze ring has a loose flange on one end, making it easier to put bolts in the holes. The Union makes up tight even though it has dirt or grit in the seat. These unions are tested to as high as 10,000 pounds.

OCT

OCT Casing Shoe



OCT

OIL CENTER TOOL CO.

924 Adelle Street

HOUSTON, TEXAS

OCT Products stocked at the following points:

Iverson Tool Co., Tulsa, Oklahoma City, and Hobbs, New Mexico.
Hercules Supply Co., Refugio and Pettus, Texas; Hobbs, New Mexico.
Houston Oil Field Material Co., Houston and Refugio, Texas.
Peco Supply Company, Houston.
Republic Supply Co., Pettus, Texas.
Oklahoma Oil Tool Co., Oklahoma City.
National Machine & Tool Co., Oklahoma City.
Wilson Supply Co., Pettus, Texas.

Sold Through Supply Stores Everywhere

United States Daily Average Production

Figures below are taken from the complete revised estimates of the AMERICAN PETROLEUM INSTITUTE except for the current week, which are advance estimates issued by the A. P. I. and are subject to revision:

1929	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Av.	United States Total
August	728,100	127,950	750,750	153,100	36,300	66,900	126,600	77,900	873,300	2,940,900	91,167,250
September	714,050	128,450	741,200	156,600	37,050	65,300	137,250	78,600	874,850	2,933,350	88,000,650
October	673,600	113,400	714,550	167,050	39,700	64,550	137,400	77,950	876,600	2,864,800	88,809,500
November	640,300	110,050	702,350	171,350	36,750	63,700	135,400	76,550	706,500	2,642,800	79,285,050
December	650,000	111,600	687,850	161,350	38,700	61,850	140,650	76,150	698,200	2,626,350	81,417,000
1930											
January	671,050	111,700	672,650	178,300	37,650	58,500	142,250	73,850	688,850	2,634,800	81,574,650
February	631,900	111,400	654,600	199,950	39,450	58,400	135,050	74,850	746,550	2,652,150	74,280,200
March	622,650	115,500	644,400	206,000	41,600	58,600	132,700	73,600	649,000	2,544,050	78,865,400
April	657,050	122,200	640,950	206,800	42,100	57,800	138,700	75,950	625,700	2,576,250	77,018,100
May	663,300	131,000	662,350	203,900	39,900	53,800	137,150	82,500	623,700	2,597,700	80,529,600
June	665,550	133,600	668,300	210,500	40,300	56,900	135,750	84,600	598,000	2,593,500	77,806,900
July	594,750	121,600	652,350	209,400	40,550	55,400	137,200	98,350	610,450	2,520,050	78,121,200
August	558,850	115,650	646,400	206,600	41,500	55,100	128,550	106,000	611,250	2,470,900	76,597,600
Sept. 6	565,000	113,550	625,150	204,200	40,450	53,500	122,850	106,050	606,300	2,437,050	17,059,350
Sept. 13	549,100	118,550	610,450	203,450	39,850	53,550	121,150	109,950	613,700	2,419,750	16,938,250
Sept. 20	563,600	117,300	598,750	200,250	40,500	53,650	121,050	113,100	613,600	2,421,800	16,952,600
Sept. 27	559,000	116,650	596,300	197,450	40,050	53,600	120,500	111,900	594,300	2,389,750	16,728,250
Increase											
Decrease	4,600	650	2,450	2,800	450	50	550	1,200	19,300	32,050	224,350

TEXAS
(Outside Gulf Coast)

PANHANDLE DISTRICT

	Sept. 27	Sept. 20
Carson County	6,800	7,150
Gray County	53,600	56,900
Hutchinson County	17,300	17,400
Wheeler County	500	500
Others	400	400
Total	78,600	82,350

NORTH TEXAS

Archer County	12,950	14,050
Burkburnett	7,850	7,850
Electra	10,700	10,450
Iowa Park-KMA	4,450	4,800
Montague and Cooke Cos.	9,300	9,500
Wilbarger	15,800	15,300
Others	2,100	1,900
Total	63,150	63,850

WEST CENTRAL TEXAS

Brown County	5,500	5,500
Callahan County	3,050	3,100
Coleman County	2,750	2,750
Eastland-Desdemona	5,300	5,400
Jack County	1,600	2,350
Palo Pinto County	450	450
Shackelford County	6,800	6,800
Stephens County	5,300	5,300
Throckmorton County	700	700
Young County	13,900	15,500
Others	1,300	1,200
Total	46,650	49,050

WEST TEXAS

Crane-Upton Counties	33,500	33,750
Crockett County	2,150	2,150
Ector	9,600	8,250
Howard County	23,800	22,800
Jones County	1,350	1,350
Mitchell-Scurry Cos.	2,200	2,150
Pecos County	3,300	3,700
Reagan County	23,100	22,300
Winkler County	62,000	63,450
Yates	102,250	101,600
Others	6,000	4,700
Total	269,250	266,200

EAST CENTRAL TEXAS

Boggy Creek	2,600	2,550
Corsicana-Powell	5,400	5,500
Currie	350	300
Mexia	4,150	4,100
Nigger Creek	200	200
Richland	150	150
Van Zandt	28,500	28,200
Wortham	650	650
Total	42,000	41,650

SOUTHWEST TEXAS

Chapman	10,950	10,000
Dale	300	300
Darst Creek	42,500	42,500
Laredo District	13,500	13,550
Luling	10,000	10,000
Lytton Springs	850	850
Salt Flat	16,500	16,500
Somerset	1,500	1,400
Others	550	550
Total	96,650	95,650
Ttl Tex. (outside Gulf Coast)	596,300	598,750

TEXAS GULF COAST

Barbers Hill	17,600	17,450
Batson	1,150	1,150
Big Creek	3,400	3,350
Blue Ridge	2,000	2,100
Boling	950	900
Damon Mound	650	700
Esperson	3,300	2,850
Fannett	700	700
Goose Creek	4,500	4,400
Hankamar	1,550	1,700
Hull	8,100	8,600
Humble	16,500	20,900
North Dayton	1,450	1,300
Orange	2,000	2,000
Orchard	2,300	2,200
Pettus	7,600	7,650
Pierce Junction	10,500	9,900
Port Neches	1,500	1,450
Raccoon Bend	12,100	12,000
Refugio	28,300	28,500
Saratoga	1,100	1,150
Somerville	2,700	2,700
Sour Lake	2,200	2,200
South Liberty	3,350	3,400
Spindle Top	15,050	15,300
Sugar Land	11,450	12,400
West Columbia	4,100	4,150
Others	2,350	2,400
Total	168,450	173,500
Texas Total	764,750	772,250

OKLAHOMA

Allen	14,250	15,100
Asher	1,150	1,200
Blackwell	3,000	3,000
Bowlegs	14,900	15,700
Braman	3,200	3,250
Bristow Slick	15,100	15,100
Burbank	15,450	15,500
Carr City	9,700	9,100
Cromwell	7,400	7,400
Cushing	13,500	13,500
Davenport	1,150	1,150
Duncan District	8,950	9,150
Earlsboro	20,450	22,850
East Earlsboro	17,250	18,400
East Little River	12,250	12,900
East Seminole	2,100	2,300
Fox	1,150	1,150
Garber	4,550	4,600
Graham	3,250	3,250
Healdton	11,950	11,900
Hewitt	7,000	7,000
Hubbard	1,400	1,400
Konowa	16,400	16,150
Little River	24,800	27,300
Logan County	4,600	4,600
Maud	3,700	3,050
Mission	7,150	7,800
North Okmulgee	10,250	10,250
Oklahoma City	104,400	98,850
Osage (outside Burbank)	25,000	25,300
Papoose	2,600	2,600
Pearson	700	700
St. Louis	24,750	24,350
Sasakwa	5,300	5,000
Scholem Alechem	13,500	14,000
Searight	7,350	7,300
Seminole	14,750	15,050
South Earlsboro	8,850	8,950
South Okmulgee	6,900	6,950
Thomas	650	650
Tonkawa	6,250	6,350
West Asher	6,950	6,950
Wewoka	3,750	3,750
Yale Jennings	7,200	7,500
Others	64,100	65,300
Total	559,000	563,600

CALIFORNIA

Dominguez	10,000	9,900
Elwood-Goleta	33,600	41,400
Huntington Beach	28,000	28,500
Inglewood	16,200	17,500
Kettleman Hills	24,000	24,500
Long Beach	99,600	102,500
Midway-Sunset	62,500	62,500
Santa Fe Springs	96,700	104,000
Seal Beach	19,000	18,900
Ventura Avenue	47,400	46,900
Playa del Rey	20,200	19,000
Others	137,000	138,000
Total	594,300	613,600

KANSAS

Augusta-Fox Bush	2,850	2,650
Churchill	3,600	3,600
Eldorado-Towanda	13,900	13,750
Florence-Covert	800	750
Greenwood County	18,450	18,500
Oxford	2,500	2,600
Peabody-Ebling	2,550	2,400
Rainbow Bend	1,100	1,100
Russell	3,000	3,100
Sedgwick	22,100	23,950
Voshell	10,250	8,900
Others	35,500	36,000
Total	116,650	117,300

NORTH LOUISIANA

Caddo Heavy	2,700	2,700
Caddo Light	8,800	9,200
Carterville	2,650	2,650
Cotton Valley	1,850	1,850
DeSoto-Red River	2,950	3,000
Haynesville	4,900	4,900
Holly	1,100	1,000
Homer	3,450	3,450
Urania	5,250	5,250
Zwolle	4,700	4,800
Others	1,700	1,700
Total North Louisiana	40,050	40,500

LOUISIANA GULF COAST

Bayou Boullion	200	250
East Hackberry	2,650	3,050
Edgerly	400	400
Evangeline	2,050	2,400
Hackberry	1,000	1,000
Lake Barre	1,050	1,050
Lockport	2,600	2,650
Port Barre	3,600	3,800
Sorrento	50	100
Sulphur Dome	2,800	3,300
Sweetlake	1,200	1,150
Vinton	9,000	5,100
White Castle	1,100	1,100
Others	1,300	1,400
Total Louisiana Gulf Coast	29,000	26,750
Louisiana Total	69,050	67,250

ARKANSAS

Champagnolle	3,750	3,750
El Dorado	4,050	3,050
Lisbon	900	900
Nevada	1,000	1,050
Smackover Heavy	36,800	36,800
Smackover Light	5,050	5,050
Stephens	900	900
Others	1,150	1,150
Total	53,600	53,650

MOUNTAIN STATES
WYOMING

Big Muddy	1,950	2,000
Elk Basin	400	750
Grass Creek	2,100	2,100
La Barge	1,900	2,100
Lance Creek	100	150
Lost Soldier	5,600	5,300
Oregon Basin	2,500	1,200
Rock River	2,100	2,200
Salt Creek	30,300	28,850
Others	6,500	5,200
Total	53,450	49,750

MONTANA

Cat Creek	1,100	1,100
Pondera	1,400	2,050
Sunburst	6,100	5,850
Others	100	50
Total	8,700	9,050

COLORADO

Florence	400	550
Fort Collins	1,100	1,150
Moffats (Craig)	1,250	1,050
Others	1,500	1,600
Total	4,250	4,350

NEW MEXICO

Artesia	700	700
Bal. Lea and Eddy Cos.	42,850	47,200
Hogback	400	400
Rattlesnake	1,250	1,250
Table Mesa	100	100
Others	200	300
Total	45,500	49,950
Total Mountain States	111,900	113,100

EASTERN STATES
(Including Ill., Ind., Ohio, W. Va., Pa., Ky., N. Y.)

	112,500	113,000
Michigan	8,000	8,050
Total Eastern States	120,500	121,050

PRODUCTION SUMMARY

East of Rockies	1,683,550	1,695,100
Total U. S.	2,389,750	2,421,800

CONSTRUCTORS of PIPE LINES of ANY SIZE, TYPE or LENGTH

Pipe Lines Under Construction for

Southwestern Natural Gas Company

108 miles—16″, 14″ and 10″ lines
Quinton Gas Field to Tulsa.

Missouri Kansas Pipe Line Company

Panhandle Eastern Pipe Line Company
Texas Interstate Pipe Line Company

55 miles field lines in Panhandle District.
150 miles 24″ Main Line in Kansas.
197 miles 22″ Main Line in Missouri and Illinois.
175 miles 22″, 20″ Main Line in Illinois and Indiana.

Continental Construction Corporation

Sec. 3 Chicago Line
140 miles 24″ Main Line.

The facilities of this organization are ever increasing for efficient service in pipe line construction in all its phases.

Williams Brothers, Inc.

PIPE LINE CONTRACTORS

Exchange Bank Building **Tulsa, Oklahoma**

Crude Oil Price Quotations

(Revised to September 30, 1930)

EASTERN STATES

(Effective September 18, 1930)

*Bradford Grade	$2.55
Penn Grade Oil in National Transit Lines (Pennsylvania)	2.30
Penn Grade Oil in Southwest Pennsylvania Lines (Penna.)	2.25
Penn Grade Oil in Eureka Pipe Line Lines (West Virginia)	2.15
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	1.90
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia)	1.55
Corning Grade Oil in Buckeye Pipe Line Co.'s Lines	1.50
Somerset Oil in Cumberland Pipe Line Lines (Kentucky)	1.30
Ragland Grade Oil in Cumberland Pipe Line Lines (Kentucky) (Effective Jan. 29, 1929)	.60
Wayne Dist. Oil in Cumberland Pipe Lines	1.24

*Posted by Tidewater Pipe Company.

CENTRAL STATES

(Effective June 26, 1930)
Posted by Ohio Oil Company

Illinois	$1.65
Indiana	1.32
Lima	1.55
Plymouth	1.23
Princeton	1.65
Wooster	1.70

WESTERN KENTUCKY

All grades	1.55

OKLAHOMA-KANSAS

(Effective April 10, 1930)

Below 25 gravity	$ .75
25 to 25.9 gravity	.80
26 to 26.9 gravity	.85
27 to 27.9 gravity	.90
28 to 28.9 gravity	.95
29 to 29.9 gravity	1.00
30 to 30.9 gravity	1.05
31 to 31.9 gravity	1.10
32 to 32.9 gravity	1.15
33 to 33.9 gravity	1.185
34 to 34.9 gravity	1.22
35 to 35.9 gravity	1.255
36 to 36.9 gravity	1.29
37 to 37.9 gravity	1.325
38 to 38.9 gravity	1.36
39 to 39.9 gravity	1.395
40 to 40.9 gravity	1.43
41 to 41.9 gravity	1.465
42 to 42.9 gravity	1.50
43 to 43.9 gravity	1.535
44 and above	1.57

PANHANDLE

(Effective April 10, 1930)

GRAY COUNTY

Below 29 gravity	.755
29 to 29.9 gravity	.805
30 to 30.9 gravity	.855
31 to 31.9 gravity	.905
32 to 32.9 gravity	.955
33 to 33.9 gravity	1.005
34 to 34.9 gravity	1.055
35 to 35.9 gravity	1.09
36 to 36.9 gravity	1.125
37 to 37.9 gravity	1.16
38 to 38.9 gravity	1.195
39 to 39.9 gravity	1.23
40 to 40.9 gravity	1.265
41 to 41.9 gravity	1.30
42 to 42.9 gravity	1.335
43 to 43.9 gravity	1.37
44 and above	1.405

CARSON-HUTCHINSON COUNTIES

Below 32 gravity	$ .775
32 to 32.9 gravity	.825
33 to 33.9 gravity	.875
34 to 34.9 gravity	.925
35 to 35.9 gravity	.965
36 to 36.9 gravity	.995
37 to 37.9 gravity	1.03
38 to 38.9 gravity	1.065
39 to 39.9 gravity	1.10
40 to 40.9 gravity	1.135
41 to 41.9 gravity	1.17
42 to 42.9 gravity	1.205
43 to 43.9 gravity	1.24
44 and above	1.275

WHEELER COUNTY

Below 30 gravity	$ .755
30 to 30.9 gravity	.805
31 to 31.9 gravity	.855
32 to 32.9 gravity	.905
33 to 33.9 gravity	.955
34 to 34.9 gravity	1.005
35 to 35.9 gravity	1.04
36 to 36.9 gravity	1.075
37 to 37.9 gravity	1.11
38 to 38.9 gravity	1.145
39 to 39.9 gravity	1.18
40 to 40.9 gravity	1.215
41 to 41.9 gravity	1.25
42 to 42.9 gravity	1.285
43 to 43.9 gravity	1.32
44 and above	1.355

WEST TEXAS

(Effective April 10, 1930)

Crane-Upton, Crockett, Ector, Howard, Pecos and Winkler Counties and Lea County, N. Mex.

Below 25 gravity	$ .65
25 to 25.9 gravity	.68
26 to 26.9 gravity	.71
27 to 27.9 gravity	.74
28 to 28.9 gravity	.77
29 to 29.9 gravity	.80
30 to 30.9 gravity	.83
31 to 31.9 gravity	.86
32 to 32.9 gravity	.89

CRUDE OIL PRICES AT THE WELL

San Francisco, Cali., September 12, 1930

Effective September 15, 1930, at 7:00 A. M. the following are the current prices offered by
STANDARD OIL COMPANY OF CALIFORNIA
For Crude Oil at the Well (Except Elwood Terrace as below).
Price Per Barrel in Fields Indicated

Gravity	Signal Hill	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Olinda-Brea Canou	Athens-Rosecrans Dominguez	Elwood Terrace	Torrance	Richfield	Whittier La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway-Sunset Elk Hills	Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge	Gravity
14-14.9	$ .70	$ .70	$ .70	$ .70	$ .70	$ .70			$ .70	$ .70	$ .70	$ .70	$ .70		$ .55	$ .55	$ .55	$ .55	$ .55	$ .55	14-14.9
15-15.9	.70	.70	.70	.70	.70	.70			.70	.70	.70	.70	.70		.55	.55	.55	.55	.55	.55	15-15.9
16-16.9	.70	.70	.70	.70	.70	.70			.70	.70	.70	.70	.70		.55	.55	.55	.55	.55	.55	16-16.9
17-17.9	.70	.70	.70	.70	.70	.70			.70	.70	.70	.70	.70		.55	.55	.55	.55	.55	.55	17-17.9
18-18.9	.76	.76	.76	.76	.76	.76			.76	.76	.76	.71	.76		.55	.62	.62	.62	.62	.62	18-18.9
19-19.9	.82	.82	.82	.82	.82	.82			.82	.82	.82	.77	.82		.55	.70	.70	.70	.70	.70	19-19.9
20-20.9	.88	.88	.88	.88	.88	.88			.88	.88	.87	.83	.87			.78	.78	.78	.78	.78	20-20.9
21-21.9	.94	.94	.94	.94	.94	.94			.94	.94	.93	.90	.93	$ .92		.86	.86	.86	.86	.86	21-21.9
22-22.9	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	.98	.97	.98	.95		.94	.94	.94	.94	.94	22-22.9
23-23.9	1.07	1.07	1.07	1.07	1.07	1.07			1.07	1.07		1.05	1.04	1.01		1.02	1.02	1.02	1.02	1.02	23-23.9
24-24.9	1.12	1.12	1.12	1.12	1.12	1.12	$1.12		1.12	1.12		1.08	1.08	1.05		1.06	1.06	1.06	1.04	1.04	24-24.9
25-25.9	1.17	1.17	1.17	1.17	1.17	1.17	1.17		1.17	1.17		1.11	1.12	1.09		1.10	1.10	1.10	1.06	1.06	25-25.9
26-26.9	1.22	1.22	1.22	1.22	1.22	1.22	1.22		1.22	1.22		1.15	1.16	1.13		1.14	1.14	1.14	1.08	1.08	26-26.9
27-27.9	1.26	1.26	1.26	1.26	1.26	1.26	1.27		1.26	1.26		1.19	1.21	1.18		1.18	1.18	1.18	1.11	1.10	27-27.9
28-28.9	1.30	1.30	1.30	1.30	1.30	1.30	1.32		1.30	1.30		1.23	1.25	1.23		1.23	1.23	1.23	1.15		28-28.9
29-29.9	1.34	1.34	1.34	1.34		1.34	1.37			1.34		1.26	1.29	1.28		1.29	1.29	1.29	1.19		29-29.9
30-30.9	1.38	1.38	1.38	1.38		1.38	1.42			1.38		1.29	1.33	1.33		1.35	1.35	1.35	1.23		30-30.9
31-31.9	1.43	1.43	1.43	1.43		1.43	1.43							1.38		1.41	1.41	1.41	1.27		31-31.9
32-32.9	1.48	1.48	1.48	1.48			1.52							1.43		1.47	1.47	1.47	1.31		32-32.9
33-33.9							1.57							1.48		1.53	1.53	1.53	1.35		33-33.9
34-34.9							1.62							1.53				1.59	1.39		34-34.9
35-35.9							1.66							1.58				1.65	1.43		35-35.9
36-36.9							1.72							1.63							36-36.9
37-37.9							1.78							1.68							37-37.9
38-38.9							1.84							1.73							38-38.9
39-39.9							1.90							1.78							39-39.9
40-40.9							1.96														40-40.9
41-41.9							2.02														41-41.9
42-42.9							2.08														42-42.9

F. O. B. Ship

KETTLEMAN HILLS*	
35-39.9	$1.10
40-44.9	1.20
45-45.9	1.35
50-54.9	1.50
55 and above	1.65

*Posted by Union Oil Company.

(See page 180)

SKILLED SUPERVISION GUARANTEES THE QUALITY OF GULF PRODUCTS

COASTAL AND PARAFFINE CRUDES
GASOLINE—LUBRICATING OILS
NAPHTHA—GAS—OILS
WAX—PETROLEUM COKE
CYLINDER—ENGINE—CORDAGE

GULF REFINING COMPANY

General Sales Offices

PITTSBURGH, PA.

District Sales Offices

New York Boston Philadelphia Louisville Atlanta Houston New Orleans

Ocean Terminals

Boston (Beverly), Mass.
Providence, R. I.
New York Harbor (Bayonne, N. J.)
Jacksonville, Fla.
Port Tampa, Fla.
Mobile (Magazine Point, Ala.)
Philadelphia (Girard Point, Pa.)
Charleston, S. C.
Savannah, Ga.
New Orleans (Gretna, La.)
Port Arthur, Texas
Galveston, Texas

CRUDE OIL PRICE QUOTATIONS (*Continued from Page 178*)

33 to 33.9 gravity	.92
34 to 34.9 gravity	.95
35 to 35.9 gravity	.98
36 and above	1.01

Magnolia Petroleum Company posts in Crane, Upton and Winkler Counties. Southern Crude Oil Purchasing Company posts only in Crane, Upton and Winkler Counties.

HOWARD AND GLASSCOCK COUNTY CRUDE

(Effective April 10, 1930)

Below 25 gravity	$ .65
25 to 25.9 gravity	.68
26 to 26.9 gravity	.71
27 to 27.9 gravity	.74
28 to 28.9 gravity	.76
29 to 29.9 gravity	.78
30 to 30.9 gravity	.80
31 to 31.9 gravity	.82
32 to 32.9 gravity	.84
33 to 33.9 gravity	.86
34 to 34.9 gravity	.88
35 to 35.9 gravity	.90
36 and above	.92

MARKHAM

The Texas Company

(Effective April 11, 1930)

All grades	$ .85

CORSICANA HEAVY

All grades	$ .80

SALT FLAT AND DARST CREEK

All grades	$1.15

SOUTH TEXAS

Mirando	$ .85
Luling	.85

NORTH AND CENTRAL TEXAS

(Effective April 10, 1930)

Ranger, North Texas, Mexia, Powell, Richland, Wortham, Currie, Moran, Nocona, Lytton Springs, and Van*

Below 25 gravity	$ .72
25 to 25.9 gravity	.77
26 to 26.9 gravity	.82
27 to 27.9 gravity	.87
28 to 28.9 gravity	.92
29 to 29.9 gravity	.97
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.07
32 to 32.9 gravity	1.12
33 to 33.9 gravity	1.17
34 to 34.9 gravity	1.22
35 to 35.9 gravity	1.255
36 to 36.9 gravity	1.29
37 to 37.9 gravity	1.325
38 to 38.9 gravity	1.36
39 to 39.9 gravity	1.395
40 to 40.9 gravity	1.43
41 to 41.9 gravity	1.465
42 to 42.9 gravity	1.50
43 to 43.9 gravity	1.535
44 and above	1.57

*Pure Oil Company, July 9, 1930.

GULF COAST

(Effective April 10, 1930)

Grade "A" all companies	$1.15

Grade "B"

Below 25 gravity	$1.00
25 to 25.9 gravity	1.03
26 to 26.9 gravity	1.06
27 to 27.9 gravity	1.09
28 to 28.9 gravity	1.12
29 to 29.9 gravity	1.15
30 to 30.9 gravity	1.18
31 to 31.9 gravity	1.21
32 to 32.9 gravity	1.24
33 to 33.9 gravity	1.27
34 to 34.9 gravity	1.30
35 to 35.9 gravity	1.33
36 to 36.9 gravity	1.36
37 to 37.9 gravity	1.39
38 to 38.9 gravity	1.42
39 to 39.9 gravity	1.44
40 to 40.9 gravity	1.46
41 to 41.9 gravity	1.48
42 to 42.9 gravity	1.50
43 to 43.9 gravity	1.52
44 and above	1.54

CLASSIFICATIONS OF GULF COAST CRUDE

The Texas Company: GRADE A—Beaume gravity not over 26.0 degrees at 60 degrees Fahrenheit; sulphur not over 0.5 per cent; in distilling 500 cc. of the crude that part of the distillate cut between 65 per cent off and 85 per cent off shall have a pour test of zero or lower. GRADE B—All Gulf Coast heavy crudes which do not meet tests for Grade "A" or for Gulf Coast light.

Humble Oil & Refining Company: GRADE A—All crude conforming to the following tests: viscosity not less than 100 seconds Saybolt at 100 degrees Fahrenheit; sulphur not over .4 per cent; Beaume gravity not over 25 at 60 degrees Fahrenheit. Cold tests of distillates having a viscosity of 1000 seconds at 100 degrees Fahrenheit shall not be over 5 degrees Fahrenheit. GRADE B—Embraces all Coastal crude which does not meet the tests for "A" grade crude.

Gulf Pipe Line Company: GRADE A—Beaume gravity not over 24 at 60 degrees Fahrenheit; viscosity not less than 100 seconds universal Saybolt at 100 degrees Fahrenheit; and sulphur not over 0.4 per cent. The yield of 250 viscosity reduced distillate at 100 degrees Fahrenheit not less than 30 per cent, and this 30 per cent not heavier than 20 Beaume, and its pour test not above zero Fahrenheit. The reduced distillate to be secured by reducing the crude with fire and steam until the bottoms have a flash of not less than 540 degrees Fahrenheit, and not more than 560 degrees Fahrenheit open cup, and the entire distillate obtained in this way reduced to a distillate of 250 viscosity. The 10 per cent cut in the original distillate having an average viscosity of 500 seconds at 100 degrees Fahrenheit to have a pour test not higher than 5 degrees Fahrenheit. GRADE B—Embraces crude which does not meet test for "A" grade.

Sun Pipe Line Company: GRADE A—Viscosity not less than 100 seconds at 100 degrees Fahrenheit Saybolt. Sulphur not over .4 per cent. Beaume gravity not over 25 at 60 degrees Fahrenheit. Cold Test: of distillates having viscosity of 1000 seconds at 100 degrees Fahrenheit shall not be over 5 degrees Fahrenheit A. S. T. M. Method. GRADE B—All Coastal crudes which do not meet specifications for Grade A crude.

REFUGIO

(Effective April 10, 1930)

Below 25 gravity (heavy)	.85

REFUGIO (Light)

Same as Gulf Coast 25 gravity and above.

PETTUS

(Effective August 21, 1930)

All grades	$1.15

BRENHAM

(Effective March 1, 1930)

All grades	.95

STATE CRUDE PRODUCTION TAXES

Oklahoma—Three per cent of gross value, less royalty interest.

Texas—Two per cent of gross value.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 per cent of gross market value.

Montana—Two per cent of gross value at well.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

WYOMING-MONTANA

(Effective April 11, 1930)

Wyoming

Byron	$1.65
Ferris	1.60
Elk Basin	1.55
Grass Creek	1.55
Rock Creek	1.35
Lost Soldier	1.05
Lost Soldier	1.00
Lance Creek	1.63
Mule Creek	1.20
Notches	.65
Big Muddy	1.38
Osage	1.63
Hamilton Dome	.85
Pilot Butte	1.58
Torchlight-Greybull	1.65
Lander	.80
Rex Lake	1.10
South Casper Creek-Poison Spider	1.00

SALT CREEK

Midwest Refining Company

29 to 29.9 gravity	1.00
30 to 30.9 gravity	1.05
31 to 31.9 gravity	1.10
32 to 32.9 gravity	1.15
33 to 33.9 gravity	1.185
34 to 34.9 gravity	1.22
35 to 35.9 gravity	1.255
36 to 36.9 gravity	1.29
37 and above	1.325

MONTANA

(Effective Feb. 15, 1930)

Sunburst	$1.65
Cat Creek	1.55
Lake Basin	2.20

NEW MEXICO

(Effective April 11, 1930)

Artesia	1.05
Hog Back	1.40
Maljamar	.95
Jal and Lea	*

(*) West Texas price scale used by The Texas Company and Humble Oil & Refining Co.

CANADA

(Effective June 28, 1930)

Oil Springs	1.95
Petrolia	2.02

LOUISIANA-ARKANSAS

(Effective April 11, 1930)

Homer, Haynesville, Caddo, El Dorado, DeSoto and Crichton and Cotton Valley*

Below 28 gravity	$ .87
28 to 28.9 gravity	.92
29 to 29.9 gravity	.97
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.07
32 to 32.9 gravity	1.12
33 to 33.9 gravity	1.17
34 to 34.9 gravity	1.22
35 to 35.9 gravity	1.255
36 to 36.9 gravity	1.29
37 to 37.9 gravity	1.325
38 to 38.9 gravity	1.36
39 to 39.9 gravity	1.395
40 to 40.9 gravity	1.43
41 to 41.9 gravity	1.465
42 to 42.9 gravity	1.50
43 to 43.9 gravity	1.535
44 gravity and above	1.57

*Shreveport-Eldorado's postings stop at above 40 gravity.

The posting on Cotton Valley is same as Caddo. From 36 to 52 and above the regular gravity schedule is followed.

The Texas Company pays North Texas gravity scale in North Louisiana.

STEPHENS

Below 28 gravity	$ .76
28 to 28.9 gravity	.81
29 to 29.9 gravity	.86
30 to 30.9 gravity	.91
31 to 31.9 gravity	.96
32 gravity and above	1.01

SMACKOVER

Below 24 gravity	$ .90
24 and above	1.05

OKLAHOMA CITY

The logical shipping point for the entire Mid-Continent Area

Take a map of the Mid-Continent area and draw a circle touching the exterior points. Find the center of that circle and you'll be on Oklahoma City.

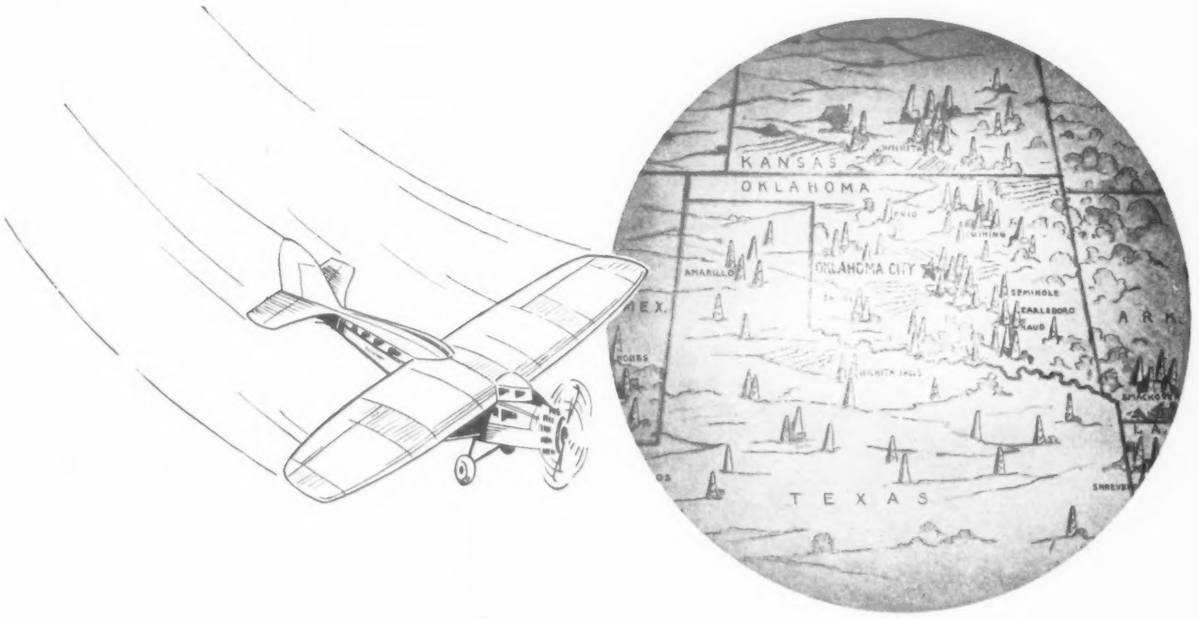
Not only is Oklahoma City the geographical center of this area but likewise, as the capital and largest city in the State of Oklahoma, it is the logical business and distributing point.

From Oklahoma City seven main line railroads radiate, offering a service to the territory which is from seven to twenty-four hours quicker than from any other point. These lines operate 164 passenger and 64 freight trains daily.

A plentiful supply of both common and skilled labor is available in Oklahoma City. Dependable, economical electric power is also available from the State's largest interconnected power plant and transmission system, at attractive industrial rates.

In short, Oklahoma City offers every advantage possible to those industries whose business is service to the oil fields.

The Oklahoma City Chamber of Commerce has prepared complete data on this subject, which will be mailed on request. A word from you will bring it.



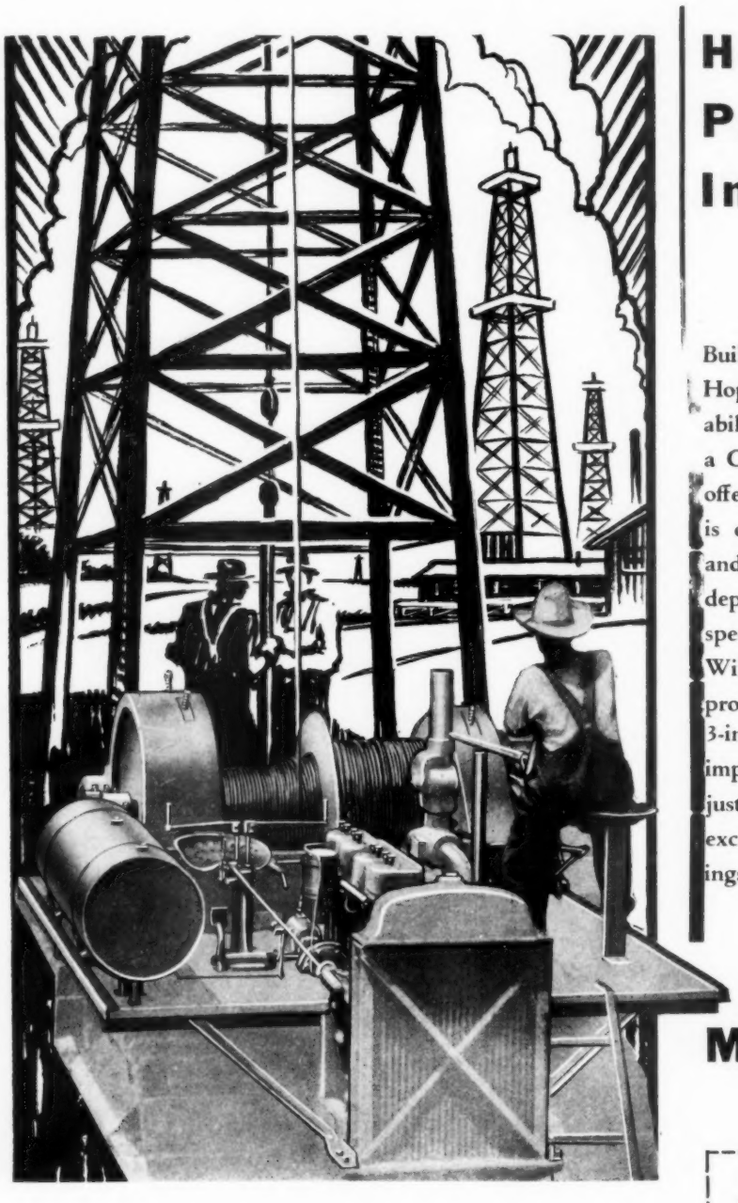
VISIT THIS GREAT GUSHER FIELD

While attending the International Petroleum Exposition (Oct. 4-11) you'll want to visit the new Oklahoma City field. Air, rail and bus transportation almost every hour. The trip is entirely worthwhile for every executive.

OKLAHOMA CITY CHAMBER OF COMMERCE

OKLAHOMA CITY, OKLAHOMA

HOPPER
PORTABLE PULLING MACHINE



Showing the Hopper type AA Hoist mounted on Caterpillar Thirty. This same type hoist can also be mounted on Caterpillar Sixty if additional power is desired.

Hoists by Straight Production Methods Insure Interchangeability

Building hoists exclusively for the past 15 years, Hopper offers the industry complete interchangeability in all hoists of the same size. Mounted on a Caterpillar Thirty, the type AA Hopper Hoist offers a line capacity of 4200 feet of ¾" line and is controlled by one 8-inch brake. Transported and driven by the Caterpillar Thirty, it has an independent three-speed transmission with three speeds forward and one reverse, on the drum. Will handle tubing, bailing, cleaning and other production work on wells up to 3000 feet, using 3-inch tubing. This hoist is equipped with the improved semi-steel cast drum having a split adjustable divider flange in the center for storing excess sand line, and is mounted on roller bearings.

HOPPER MACHINE WORKS, Inc.

BAKERSFIELD, CALIF.

Cable Code: "Hopper"

Please send me complete information on your type AA Portable Hoist. I am interested in hoists for wells of ..... depth, using .....-inch tubing.

Name .....

Address .....

Company .....

PERSONAL MENTION-MEN YOU KNOW

R. E. ANDREW

Proration umpire for the Van field, Texas, was formerly general superintendent of production for Oklahoma Producing & Refining Corporation of America, with headquarters at Tulsa

W. B. Pyron, vice president and general manager of Western Gulf Oil Company, California subsidiary of Gulf Oil Corporation, has returned to Los Angeles, following an extended outing in the Hawaiian Islands.

Vivian Fox, son of Dr. W. S. Fox of Duncan Fox and Company, agents for Union Oil Company of California in Europe, Chili, Peru and Bolivia, recently returned to London after an extended business trip to California.

George Williams, vice president of Hancock Oil Company, has returned to Los Angeles after an extended vacation trip through the Pacific northwest.

W. A. Trout, vice president and genager; Chas. D. Wagner, vice president in charge of sales, and L. A. Rossen, chief engineer, derrick division, Emsco Derrick & Equipment Company, left Los Angeles September 23, for Dallas, where they will visit the Emsco branch, and later will go to Tulsa for the exposition.

Miles C. Smith, manager of sales promotion for the Stoody Company, headquarters in California, is visiting various points in the Mid-Continent, and will attend the exposition at Tulsa, havnig charge of the Stoody booth.

Adolph Schenck, representing McEverlast, Inc., left Los Angeles, September 27 for Tulsa, where he will have charge of the McEverlast booth at the exposition.

Stacey B. Dorn, head of the land department for Continental Oil Company in Texas and New Mexico, with headquarters at Fort Worth, has resigned, and will be succeeded by F. B. Ballantine, who has been connected with the Ponca City office of the company.

Levi Smith, president Big Lake Oil Company, Texon, Texas, spent several days in Fort Worth late last week negotiating with several interests that propose to build natural gas lines from the Big Lake field to market a portion of the residue gas now available, then departed for a short visit at Hot Springs, Arkansas.

Joe Howell, production superintendent for Broderick & Calvert, Fort Worth operators, in the Zwolle field, Louisiana, has been transferred to Van, Texas.

Henry L. Nedom, geologist for Midwestern Gas Company of Okmulgee, Oklahoma, was a recent visitor in Jackson, Mississippi, checking up on activities in the gas field there and studying logs of previous tests in Missippi.

LEWIS E. HOFFMAN

Washington attorney who is leading the fight against President Hoover's oil conservation policy. A decision ordering reinstatement of oil and gas permit applications is expected to reach the United States supreme court

Carl C. Mac Fadden, age 30, well known in South American petroleum circles, was drowned September 19 while surf swimming at Datona Beach, Florida. Burial was at Datona Beach. Mr. MacFadden was active in exploration work incidental to petroleum development of the Carib Syndicate in South America some years ago. He also spent some time in the Eastern Andes and the Sogomoso Valley, where his engineering training proved valuable to him and to his employers.

Dr. J. M. Travieso Paul and C. C. McDermond have been officially named as delegates from Venezuela to the International Petroleum Exposition. Dr. Paul is a well known attorney of Caracas who has represented various oil companies before the national government for many years. Mr. McDermond maintains an oil scouting service which lists practically all the major companies in Venezuela among its clients.

Col. E. C. Rice, formerly commander of the 14th Engineers of the United States Army, has been appointed acting general manager of the Martin Engineering Company in Venezuela. Col. Rice has been with the company for several years and has been in charge of various projects for the company in Mexico during the past few months.

Carl King, superintendent of Wickwire Spencer Steel Company's mill at Palmer, Massachusetts, is making an extended visit through the Mid-Continent oil fields, including attendance at the International Petroleum Exposition and Congress at Tulsa.

Howell D. Cameron with Humble Oil & Refining Company's production department, Hobbs, New Mexico, and Miss Floy Sigmon were married August 23 and spent the past week in Houston visiting Cameron's sister, Mrs. Raymond Ford of the production department of Rycade Oil Corporation, and Raymond Ford, district manager of Williamsport Wire Rope Company.

A. J. Penick, president of Oil Center Tool Company, Houston, returned from a tour of Oklahoma, New Mexico and Kansas fields late in September. He has appointed H. D. Start, formerly with Layne & Bowler Company, Houston, as sales representative covering the upper Mid-Continent territory, with headquarters at Oklahoma City. Start will provide field service on Oil Center Tool Company products in Oklahoma, Kansas and New Mexico, working in connection with supply houses handling his company's line of equipment.

Lander, Wyo.—Work has been started on New York Oil Company's gas pipe line extension from this town to the Shoshone Indian reservation settlements of Fort Washakie, Wind River, Ethete and the government schools. Indian residents of the reservation are being employed in the work of stringing the pipe. The line will be 22 miles long and will consist of four-inch pipe.

Oklahoma--Kansas Field Notes

FLOYD L. SWINDELL, *Staff Representative, Tulsa, Oklahoma*

Proration Enforcement Held Constitutional by Court

TULSA.—Proration affairs moved with rapid strides in Oklahoma Tuesday, September 30. At Oklahoma City the Federal District Court, with three judges sitting, ruled that the statute under which the Corporation Commission of Oklahoma issues and enforces proration orders is constitutional. The present proration schedule for the state was extended for 10 days into October by order of the corporation commission. In Tulsa the proration committee of Mid-Continent Oil & Gas Association prepared a schedule for the last three months of the year.

The court ruling at Oklahoma City was on the petition of Champlin Refining Company of Enid, which had asked for interlocutory injunction, restraining the corporation commission from enforcing proration orders. The constitutionality of the Oklahoma statute was questioned, while the charge was made that through proration orders, the leading oil companies are but fixing prices.

The case came before the court Monday, September 29, and arguments were continued through Tuesday. While the case may be appealed first to the Federal Court of Circuit Appeals and later to the Supreme Court of the United States, the ruling of the three district judges is looked upon as a favorable move in behalf of proration.

Extension Asked

The extension of present proration schedules was asked. Since a program for the final quarter of the year has not been drafted. Ray M. Collins, umpire of the prorated fields, asked for 10 days of extension and the corporation commission issued an order to that effect.

Meanwhile the proration committee of Mid-Continent Oil & Gas Association prepared its schedule for the final quarter. It will go before the producers of the Oklahoma City field there Wednesday, October 1. Friday, October 3, there will be a general meeting of all producers of the state in Tulsa to pass finally on the new schedule. The schedule which has been prepared for the last quarter of the year gives the Oklahoma City pool additional outlet.

Outlet Now 130,000 Barrels

The outlet for that pool will be about 130,000 barrels daily against a present outlet of 66,500 barrels. The schedule gives Oklahoma 550,000 barrels daily for October, 545,000 barrels in November and 535,000 in December. The additional outlet for Oklahoma City oil is being given by deducting from the outlet of all other pools of the state. Part of the additional for Oklahoma City will come from the settled oil fields, while some will come from prorated pools other than Oklahoma City.

Final details of how this will be accomplished have not been accounted. The whole schedule will have to come before oil producers at the two remaining mettings of the week before the petition that it be written into an order.

The Supreme Court of Oklahoma has yet to rule on the petition of C. C. Julian, who sought to restrain the corporation commission through the state court.

In legal circles it is thought that any further move against the constitutionality of the proration statute will be by taking the Julian case direct to the Supreme Court of the United States, in case it is favorable to the state.

Tulsa.—Sale of Osage leases at Pawhuska September 29 resulted in the taking of 101 tracts for a total of $101,530. Forty-six tracts were passed. The sale was the last under the superintendentship of J. George Wright who is retiring early next year as Superintendent of the Osage tribe.

Test East of Little River Gets Oil at 2654-65 Feet

TULSA.—Prairie Oil & Gas Company's Abel 1, CSW NE Section 10-9n-8e, became one of the Greater Seminole district's most interesting tests when, on Saturday morning, September 27, the hole filled 3000 feet with oil from a sand at 4354 to 4356 feet but dropped into the background when the oil was exhausted after pumping one barrel an hour for several hours. Top of the Cromwell sand was at 3540 feet and at 3501 feet the hole filled 1700 feet with water. It is now drilling below 4390 feet. Mid-Continent Petroleum Corporation's Tiger 2, SW SW NE Section 9-7n-8e, east of the Little River pool, gauged 500 barrels during the first 11 hours from a sand at 2954 to 2965 feet. Gas is estimated at 10,000,000 cubic feet. Production is thought to be coming from the Booch sand.

Amerada Petroleum Corporation's Morris 1, SE SW NW Section 29-9n-6e, diagonal northwest offset to the Amerada-Dixie's Chase 1, the discovery well, had the top of the Mayes limestone at 3790 feet, making it 94 feet structurally lower than the discovery well. The two locations are only 880 feet apart, a fact which indicates the possibility of faulting. Chase 1 has been producing better than 3500 barrels daily from the Wilcox sand at 4087 to 4116 feet.

Champlin Pipe Line Company is running 3500 barrels daily from Continental Oil Company's storage in Section 2-9n-6e. Oil is being taken for tender shipment to Continental Oil Company at Ponca City.

The Konawa pool was extended one-quarter mile to the south when Magnolia Petroleum Company completed its Wood 1, NEC SW Section 29-6n-6e. The well produced 913 barrels during the first six hours from a sand at 2800 to 2803 feet.

M. G. R. Oil Company's Mitchell 1, NW SE SE Section 24-1s-3w, in the southeast extension of the Tatums pool, Carter County, should be one of the most interesting tests in the area from the fact that it encountered 125 feet of solid oil sand from 2240 to 2365 feet. Casing was cemented at 2230 feet. Production in the pool has been obtained from a series of broken sands at about the same depth, and the Mitchell is the only test to find such a great thickness of solid sand.

Eason Oil Company's Katschor 1, CSW NE SW Section 34-17n-4w, approximately nine miles northwest of Guthrie, Logan County, had the top of the second Layton at 4918 feet and cored from 4919 to 4942 feet recovering one foot of saturated oil sand. It is shut down to run eight-inch casing. This test is located on a northwest-southeast line between the Oklahoma City pool and the Lovell-Marshall district of northwestern Logan County.

Oklahoma City Locations and Completions Total 15 Each

Oklahoma City.—Completions and new locations ran an even race in the Oklahoma City pool, with 15 each during the fiscal week ending September 29. Skelly Oil Company's Hurt 1, NW NW NW Section 2-11n-3w, the largest completion of the week, gauged 5322 barrels in one hour and 40 minutes with 45,000,000 cubic feet of gas. Directly south across the quarter section Independent Oil & Gas Company placed its Lybrand 1, SW SW NW, on production at the rate of 5495 barrels in two hours and 45 minutes. The first step in the question of where the Wilcox sand will swing around the southwest flank of the structure is solved for the northwest end of the pool. The Lybrand 1 had the Wilcox from 6266 to 6343 feet and several of the recent completions in that sector are producing from this same part of the Simpson formation. Width of the Wilcox production around the southwest margin of the pool is still an unsolved question.

Prairie Oil & Gas Company, Slick, and Phillips Petroleum Company's Sigmon 3, NW SW SW Section 32-11n-2w, was the only well completed in the southern part of the field. Detrital and broken sand were encountered at 6240 feet and 6⅝-inch casing set at that point. Initial production was 1595 barrels in 16 hours with 30,000,000 feet gas.

Mid-Kansas Oil & Gas Company and Ramsey Petroleum Corporation's Messer 1, SW SW SW Section 32-14n-3w, discovery well in the Edmond area, had produced approximately 7800 barrels at last report and was flowing between 370 and 390 barrels daily while cleaning out 16 feet off bottom. Total depth is 6771 feet. The well has been shot twice, the first shot increasing production from 431 to 732 barrels. Since the second shot operators have not cleaned out to the bottom of the hole and its full effect is not known.

Development Takes Uptrend in Kansas During Past Week

WICHITA, Kans.—New work took a decided upward trend in Kansas during the past week, when 28 new locations were announced. McPherson and Stevens Counties led with four new locations each and Cowley and Greenwood Counties had three each. The remaining 14 were scattered over 13 counties.

The west edge of the Eastborough pool, Sedgwick County, Kansas, was defined when Graham Oil Company's Dennison 1, S½ NE NE NE Section 25-27s-1e, had a hole full of oil and water from 11 feet of chat topped at 2986 feet. The test was drilled to 3014 feet, 17 feet below the base of the chat. In the northeast part of the pool, Derby Oil Company completed its Eastborough Estates 2, SW SE Section 19-27s-2e, for an initial gauge of 700 barrels, production coming from the chat from 2974 to 2991 feet.

Western Trego County and eastern Gove County are attracting considerable attention in the west central part of the state where two deep tests are drilling. Atlantic Oil Producing Company's Mann 1, CNE Section 11-12s-27w, eastern Gove County, is drilling below 1175 feet, on top of a core-drilled structure upon which the Atlantic has approximately 85 sections in a solid block. Eight miles south, Valerius et al's Todd 1, NWc Section 24-13s-27w, is drilling below 4200 feet, on a surface structure in the Darton's Archarea. This test is reported running about 170 feet higher than the Phillips Petroleum Company's Spitz 1, SEc Section 24-12s-25w, 13 miles to the east. The latter test was completed as a dry hole at 4360 feet after having had favorable shows of oil at 4160 and 4240 feet. The closest deep test is south of the area where Continental Oil Company completed its Moses 1, SEc NE Section 7-18s-25w, Ness County. This well was completed several months ago in a sand from 4428 to 4430 feet, where it swabbed 220 barrels initially. Amerada Petroleum Corporation, Prairie Oil & Gas Company, Atlantic Oil Producing Company, Skelly Oil Company, The Texas Company, Continental Oil Company, Producers & Refiners Corporation and the Gypsy Oil Company have approximately 100,000 acres under lease in Gove and Trego Counties.

Record Attendance at Drumright Meeting

Drumright, Okla.—The Drumright chapter, A. P. I., division of production, established an all-time attendance record at its regular meeting of September 16, when 207 field men, manufacturers' representatives, and visiting engineers were present. D. O. Barrett, designing engineer for Gypsy Oil Company, gave the principal talk on "Oil Field Gas Engines." By agreement, discussion was limited to the two-stroke cycle principle and the features of seven popular makes of engines were presented. Several of the newest improvements and testing instruments were on display. The secretary of the chapter ascertained that over 50 per cent of those present were either running gas engines or had engines under their supervision.

Oklahoma Independents Direct Guns at Shell
(*Continued from page* 55)

stand that tariff matters would be difficult to bring before congress at the coming short session. He suggested that an embargo instead of a tariff be asked.

Tariff and Industrial Question

Harry H. Rogers, president of the Exchange National Banks of Tulsa, suggested that the tariff question was solely one of industry and not of politics. He said he had favored a tariff on American industry since he had studied the matter and added that if there was any justification for a tariff on any American industry there was a plea for the petroleum tariff in like justification.

"I am not in favor of sending paid propagandists to Washington," he added, "but I am in favor of sending men who are engaged in the business of producing oil. They deserve to be heard and if they present the facts of their industry properly they will be heard."

After the adoption of a constitution and by-laws, James G. Cloud of Tulsa was elected president. Vice presidents are Frank Buttram of Oklahoma City, Elmer Habner of Seminole, J. B. Nickols of Chickasha and Peyton Brown of Blackwell. George A. Dye of Tulsa was elected treasurer.

The constitution provides that the state be divided into eight districts each to have a vice president. The other four will be provided when these districts have been designated. A list of directors was elected.

President Cloud made a brief talk in which he urged that the several hundred present become membership workers. He said organization was necessary. He also made the statement that the independent producers would get along with the larger concerns of American ownership but said it would be impossible to get along with foreign methods and foreign thought.

North and West Texas Field Notes

H. H. KING, ***Staff Representative, Fort Worth, Texas***

Van Production Area Extended To North, West and South

CORSICANA, Texas.—Productive limits of the Van field were extended to the north, west and south through activity carried on within the unitized area during the past week. Seven new completions were credited to the field, including three heavy producers on the east side of the structure, and outside the pooled acreage, but the latter are all throttled on an equal basis with production restrictions used on unit wells. Proration rules of the Texas Railroad Commission are being adhered to by all well owners in this field, and all production is handled via the 10-inch trunk line of Pure-Van Pipe Line Company, although developers of strip leases have been threatening to provide private market outlets. The 5800-acre unit has 115 wells that are limited to 25,000 barrels daily, or an average of 118 barrels daily each, while the 2500-barrel maximum daily production quota assigned the wells outside the unit is allowing the 11 flowing wells in this section of the field to average 227 barrels daily.

Broderick & Calvert, Fort Worth operators, completed their first test on the M. F. Shirley 2.07-acre strip lease on September 26, with an initial gauge of 109 barrels per hour via 11/16-inch choke from Woodbine sand formation at 2755-2932 feet. Following the official proration gauge by Umpire R. E. Andrew, this well was opened for 14 minutes by its owners and is credited with having made 189 barrels pipe line oil during this brief period. Pure-Van Pipe Line Company has connected to the well, and is taking 100 barrels daily until the new proration period begins October 1, then the production will be determined on a basis of potential yield and acreage. Broderick & Calvert have applied for a permit to drill a second location on the east end of their strip lease. Should this location be drilled the two will require about one dozen offsets from Pure Oil Company and Shell Petroleum Corporation.

Shell Petroleum Corporation's J. T. Taylor 1, located in southeast corner of 30-acre lease, was completed September 27 with an initial gauge of 110 barrels oil per hour through 11/16-inch choke at 2756-2950 feet. This is the first completion made outside the unit by the above concern, and rotary rigs have been setup to drill in the southwest and northeast corners of the same lease. Pure Oil Company's third completion outside the Van unit was made when M. F. Shirley 1 flowed 400 barrels daily through 14/64-inch choke, with a casing pressure of 443 pounds and tubing pressure of 320 pounds. Pure Oil Company is drilling three other tests outside the unitized block.

Deeper Drilling Under Way

Deeper drilling was under way early this week on Humble Oil & Refining Company's L. A. Dowdle (40 acres) 1, located in the northern part of the Van unit block and in the southwestern part of the William Daniel Survey, after having swabbed only 8½ barrels oil on five hour test at 2967 feet. Coring was taking place at 2983 feet on the morning of September 29, without any appreciable increase in oil. The outcome of this test has considerable bearing on a large percentage of acreage contributed to the Van unit by Humble Oil & Refining Company. Roy Jenkins and associates of Dallas suspended operations on their M. E. Davis 1, located on the northwest portion of the Van unit, late last week to purchase and install pumping equipment, with prospects of making a commercial oil pumper near the 3000-foot level. Litigation is still pending between the above parties and Pure Oil Company as to lease ownership of the Davis 66-acre tract.

Pure Oil Company's H. P. Tunnell (131½-acre) 1 extended production more than 1000 feet to the south on the Van unit with an initial output of 56 barrels oil per hour for three hours through 11/16-inch choke at a total depth of 2957 feet. The same company's A. R. Humphreys (100 acres) 1, McPhail Survey, widened the oil area to the southwest by flowing 53 barrels oil per hour for eight hours through 11/16-inch choke at a total depth of 2947 feet. Both of these outpost tests furnished a larger crude yield than anticipated. Pure Oil Company's J. R. Petty (101 acres) 1, M. Gross Survey, made 153 barrels initial via small chokes at a total depth of 2960 feet. A gas blowout between the surface casing and seven-inch pipe occurred on Pure Oil Company's J. F. Crim (40 acres) 1, when changing connections at 2981 feet. This test has been a failure in the regular oil horizon, although it is an offset to a producer on the G. T. Miller farm.

Resumption of work on C. M. Joiner et al's wildcat test on the Mrs. Daisy Bradford farm, Rusk County, is scheduled to take place October 1. This rank wildcat offered every indication of making a commercial oil producer when given a brief drill stem test from broken sand at 3536-92 feet on September 5. A string of 6⅝-inch casing has since been cemented at 3486 feet. In the meantime heavy trading in leases and royalties on acreage lying in general vicinity of the Bradford farm has taken place, with major companies sharing equally in the purchasing. Regardless of the outcome of this wildcat, the area is assured a number of additional tests. Materials are being moved in for Rosenfield et al's nearby test on the L. A. Pinkston farm, Maria de Pena Survey.

Showing stream of oil pouring from Broderick & Calvert's Shirley 1, located outside the unitized area in the Van field, Texas, as the well cleaned itself of drilling fluid

Seek Natural Gas Lines for Big Lake Field

San Angelo, Texas.—Negotiations were launched late last week by Big Lake Oil Company and Group One Oil Corporation (Continental Oil Company) with prospective builders of gas lines that will probably result in the construction of one or more trunk lines to market a portion of the natural gas now lacking a market in the Big Lake field. Conferences were held in Fort Worth by officials of the above two companies with parties who propose to build a trunk line to San Angelo to serve industrial consumers, while a second project involves the construction of a 10-inch line to McCamey and Girven, Texas. A large oil field electric power plant is located at the latter point, while a similar plant is at San Angelo.

Approximately 121,000,000 cubic feet of residue gas is available daily from the six record depth producers in the Big Lake field after the commodity has been passed through natural gasoline plants. This large volume of gas is being produced with the oil, which is averaging 10,667 barrels daily, in spite of the fact that back pressures ranging from 165 to 650 pounds are applied to all deep wells. Big Lake Oil Company's University 4-C has reached a depth of 8665 feet, and will be tested for production. There are three other deep tests under way in the field.

Production from the six completed deep wells for the 24-hour period ending 7 a. m. September 29, is listed below:

	Oil Production	Gas Production	Pounds Back Pressure	Total Depth
Group One Oil Corporation—				
University 1-B	2790	26,047,000	165	8523
University 2-B	2130	28,113,000	650	8489
University 3-B	1730	19,546,000	600	8633
Big Lake Oil Company—				
University 1-C	1285	10,427,000	450	8668
University 2-C	2548	35,408,000	650	8603
University 3-C	184	2,110,000	350	8923

Development of Wildcat Area In Gray County, Assured

Pampa, Texas.—An aggressive development program is being set in motion by major and independent operators on leases near the heavy oil and gas producer scored September 15 by Dick Graham et al on the R. Sullivan land, located in western Gray County and between Kings Mill and Pampa. More than a dozen new tests are already assured for the area, even though proration enforcement in the Panhandle is forcing a large volume of production from old wells to be pinched. Sullivan 1 is credited with having registered a potential flow of 6538 barrels daily when given a proration gauge last week. It had previously been rated as a 5000-barrel well, with more than 50,000,000 cubic feet of gas from top of oil and gas formation at 2998 feet.

The unusual production developed by this semi-wildcat well is believed to be due to it having drilled at the contact point of the lime and granite wash formations. The well is located 790 feet south and 470 feet east of the NWc NW Section 136, Block 3, I.&G.N. Ry. Survey on a 40-acre lease which was obtained by Graham and others by agreeing to drill and make $7000 in oil payments. Empire Gas & Fuel Company, Phillips Petroleum Company and Magnolia Petroleum Company are rigging up direct offsets, while the latter is starting a second test to the north of its W. B. Latham 1, with Skelly Oil Company offsetting Latham 2 to the west. Midgray Oil Company is rigging up Sam McCullough 1, located to the southwest and south of the Santa Fe Railroad.

In the event the above area proves to be prolific when new wells are added, the Panhandle proration committee is contemplating a separate proration plan to apply to same, rather than to subject old wells to added production penalties. The owners of the big well have not been able to market their entire production, but have leased two 55,000-barrel steel tanks from The Texas Pipe Line Company, which is also transporting the oil to the tanks.

Production in the Panhandle district averaged 77,850 barrels daily, during the past week, according to estimates, with about 53,730 barrels of this amount supplied by Gray County producers.

Crude Production Within 21,000 Barrels of Economic Quota

(*Continued from page* 174)

000 barrels daily during the past week. Distressed priced crude has been available and accepted by some North Texas plants for several months, but recently the latter have come out in the open with formal announcements as to oil buying policies.

Primrose Refining Company has been the most active in lining up with small producers that have completed wells that failed to attract market outlet with other buyers and has been supplying its Wichita Falls plant with crude ranging from 15 to 30 cents per barrel below posted.

Panhandle Refining Company announced that effective September 20 it would pay 30 cents per barrel below The Texas Company's posted price for oil purchased, else provide storage facilities for producers at two cents per barrel monthly, with the latter paying all transportation charges. American Refining Properties announced effective September 25 that all of its crude purchases would be made at 25 cents per barrel below posted. Iowa Park Producing & Refining Company and other plants in the district have adopted similar price revisions.

Other Takings Cut

Humble Oil & Refining Company and The Texas Company lowered their crude takings from the above district early in September, and on September 16 Prairie Oil & Gas Company cut its takings from the North Texas area from about 7500 to 4200 barrels daily. Sinclair interests made slight reductions in takings from Montague and Wilbarger Counties. Continental Oil Company joined in the movement by reducing its oil runs to a maximum of 3100 barrels daily, thus giving its connections an average outlet of about 2½ barrels daily. The latter company also cut runs from its own leases on the same basis as outside connections. A number of leases, and scores of wells in the district are now without market outlet.

Such a condition was to have been corrected by the Texas pipe line law, but since the latter went into effect the number of properties without pipe line connections have been multiplied. Comparatively cheap priced low gravity crudes produced in Southwest and West Texas as well as New Mexico, are not being evaded by major crude buyers.

In previous years such crudes were invariably a second choice to North Texas light crudes, regardless of price differences, but improved refining methods have reversed the situation, and restoration of popular demand for North and Central West Texas crudes with major companies cannot be realized until a readjustment of prices occurs.

14 New Wells Add 16,000 Barrels Potential Daily
(Continued from page 165)

oil and about 20,000,000 cubic feet of gas daily at 4175 feet, with three-inch tubing at 4167 feet. The fifth and possibly last location on the lease is preparing to cement seven-inch casing below 3900 feet.

Workover treatment and shortening of the tubing string accounted for a substantial boost in potential production of The California Company's State 1, which has heretofore been a comparatively small producer although it offsets some of the largest wells in the field. State 1 earned a potential of 2074 barrels daily on the first official proration gauge in August, with a total depth of 4191 feet and three-inch tubing swinging at 4147 feet. The well was killed September 14 and tubing elevated to the 4138-foot level. A new proration gauge taken September 24 credits the well with flowing 171.88 barrels per hour through tubing and casing, or at rate of 4125 barrels daily, with a gas flow of 15,400,000 cubic feet. This well has always had a heavy volume of gas above the oil horizon. The California Company's State 2, a west offset to the above well, made 783 barrels pipe line oil, testing 36.5 gravity, on official one hour gauge September 24, with a gas volume of 14,700,000 cubic feet daily. This gas tested 1.04 gallons gasoline net per 1000 cubic feet. State 2 was drilled to 4171 feet, and three-inch tubing was lowered to the 4150-foot level.

Continental Oil Company's State 1-A, a west offset to Tidal Oil Company's record producer on the Grimes farm, was completed September 26 with a potential output of 16,824 barrels of oil and about 11,000,000 cubic feet of gas daily at a total depth of 4178 feet. This well was tubed to within 40 feet of the bottom of the hole, and 701 barrels per hour on open flow test, and 475 barrels per hour through tubing. Two other tests on the same lease are in process of completion. Texas Pacific Coal & Oil Company's State 2-G failed to qualify for the October 1-15 proration period because of a mishap in running tubing to complete at 4208 feet. Six joints of three-inch tubing are entangled in the bottom of the hole.

The Eunice, or Lockhart-Meyer pool, Lea County, is to be given consideration from an oil production standpoint in the future, as evidenced by the fact that four oil wells and no dry holes have been added. Tidal Oil Company's O. L. Coleman 1, SWc NE Section 17-21s-36e, averaged 590 barrels oil daily flowing natural during first four days after shooting with 75 quarts at 3890-3965 feet. This well was drilled to 4147 feet, and plugged back account of sulphur water to 3968 feet. It has been in process of completion since the latter part of August, and all production is handled by The Texas Pipe Line Company on a common carrier basis for Tidal Refining Company. George F. Getty Oil Company's State 1, NEc section 19-21s-36e, is the most recent addition to the pool, and is equipping to pump at a total depth of 4000 feet after swabbing and flowing 125 barrels oil during first three hour test made September 26. The latter well has not obtained a pipe line connection, or promise of a market outlet. Each of the above wells will require a trio of offsets.

In Otero County, R. H. Ernest of El Paso and associates are preparing to resume drilling on their wildcat test known as No. 1 Located Land Company after re-cementing a string of 15½-inch casing at 720 feet. This test is located in the SEc Section 20-25s-7e, and is contracted to 4000 feet.

Wildcat Test Promising

Appearance of oil early this week in Fuhrman Petroleum Corporation's Andrews County wildcat was anticipated, as the well blew in as a heavy gasser on August 4 from lime at 4062-68 feet, and gauged 26,000,000 cubic feet of gas five days later. Tools were lost in the hole, causing a delay of about two weeks. The gas flow is credited with having increased while fishing tools, and attempting to deepen later. The well was killed September 9 to set 6⅝-inch casing at 4155 feet. First oil began showing in the hole at 4287 feet. The hole filled 3250 feet with live oil when deepened to 4330 feet, with about 1,500,000 cubic feet of gas in evidence. This wildcat is located on the W. T. Ford ranch, being 440 feet north and 2200 feet east of the southwest corner of section 16, block A-43, P. S. L. and about six miles south of the nearest production.

A string of 2½ inch tubing has been installed in Southern Crude Oil Purchasing Company's wildcat producer on the Cowden ranch in northern Ector County and about 18 miles southeast of the above strike on the Ford ranch, but no attempt will be made to produce the well until the completion of the 55,000 barrel steel tank now under construction on a nearby site. Cowden 1 flowed 38 barrels oil during first two hours after setting tubing. It had previously flowed 280 barrels 30.4 gravity oil natural from lime at 4130-4244 feet. Eight 500-barrel steel tanks have been filled on the lease with oil.

Gulf Production Company's G. W. O'Brien 13, which was reported last week as having set a new production record for the Gulf-O'Brien field, Ward County, made 2675 barrels, partly pinched, during first 24-hour gauge from sandy-lime at 2595-2600 feet. This well is credited with having produced 200 barrels on a single hour gauge, but has since been placed on choke. The heavy production is due to the well having encountered an unusual thickness of oil sand, while most wells on nearby locations have found the oil formation broken. O'Brien 13 was drilled in with cable tools. Sid Richardson-Frank Kelsey & Magnolia Petroleum Company's O'Brien 4-A, a south offset to the above, has been completed making 330 barrels natural at 2572-2795 feet.

Sinclair Oil & Gas Company's Montgomery-Dodge 1, located in eastern Howard County and in semi-wildcat territory, scored a substantial gain in production when deepened to 2798 feet and shot with 300 quarts at 2648-98 feet. This well swabbed and flowed 245 barrels during first full 24-hour test, and 115 barrels on the following day. It was previously completed as a small producer at 2452-2570 feet.

Judkins' Production Cut 1000 Barrels

Fort Worth, Texas.—Production in the Judkins field, Ector County, is to be reduced to about 7500 barrels daily during the October proration period as result of lower crude nominations having been made by purchasers. A meeting of the proration advisory committee for this field was held in Fort Worth, September 29, with W. L. Todd, vice-president Simms Oil Company, presiding as chairman, and recommendations were made to change the proration plan from a straight potential basis to a combination acreage and potential plan. This move is being made to discourage unnecessary development work, and will allot 75 per cent of the market outlet on a basis of potential yield of wells, with 25 per cent for acreage. Burford Oil Company, which is the only willing crude buyer in the field, has requested that its takings be cut to 1500 barrels daily. The committee also voted to extend proration another 30 days. The field was given a maximum production quota of 8500 barrels daily for September.

Gulf Coast and South Texas Fields

JACK LOGAN, *Staff Representative, Houston, Texas*

Rush Darst Completions Before Announced New Schedule

SEGUIN, Texas.—Over a dozen wells were completed in the Darst Creek field during the past week, increasing to more than 20 the number of new producers brought in since the beginning of the current intensive drilling campaign on inside locations several weeks ago. While these new wells were being completed others were being started, and a dozen or more additional wells are due for completion before initiation of the next proration schedule. The current schedule, under which the field's production is restricted to approximately 42,500 barrels, will continue in effect until October 12, when the new one will be substituted.

When the current schedule was instituted on August 14 there were about 165 pumping and flowing wells in the field. A few scattered completions during the latter part of August and the first part of September, and the numerous new producers recently completed or on the verge of completion, will likely boost the total number of wells in the field above 200 for the forthcoming new proration schedule.

Tank car shipments of crude from the Darst Creek field, ranging from 2000 to 2500 barrels daily, are being made by Sun Oil Company from its Knoblock property to its refinery at Toledo, Ohio. This company recently moved its tank car rack from Salt Flats field, near Luling, to Sullivan, and leased the six-inch pipe line that J. S. Abercrombie and Harrison built early last summer from their Dix lease to Sullivan rack and two 80,000-barrel steel tanks. Failure to obtain a local crude market forced Sun Oil Company into handling and marketing its own production. Sun Oil Company has made the following completions on its Knoblock lease: Knoblock 9 flowed 20 barrels per hour at 2601 feet; Knoblock 10 flowed five barrels per hour at 2597 feet; and Knoblock 11 flowed 25 barrels per hour at 2577 feet. Knoblock 12 has cemented casing to test at 2444 feet.

Make Eight Crevice Strikes

Crevice strikes on the north end of the Darst Creek field by Magnolia Petroleum Company have been increased to a total of eight, including some of the biggest producers credited to the field. This company's Nora Huff 1, a northwest offset to L. V. Eckols 4, is standardizing to pump after filling with 600 feet of oil and no water following the drilling of cement plug, with a total depth of 2237 feet. This well lost rotary returns when the crevice was encountered, as is usually the case with such type of wells. Huff 1 is expected to make a 250-barrel pumper. Eckols 4 encountered the same crevice, and after drilling to 2776 feet pumped 122 barrels oil during first 24 hours, but on official proration test made 86 barrels daily, thus earning an allowance of 23 barrels daily. J. M. Richburg 4 was completed early in September from crevice at 2305 feet after cementing 6⅝-inch casing at 2296 feet, and flowed 2800 barrels gross production on initial gauge with a net production of 1916 barrels oil. This well earned a proration allowance of 513 barrels daily.

Gulf Production Company, which has been the most active company in the field in the current drilling campaign, completed four wells during the past week. C. Knoblock 3 came in September 25 flowing 1080 barrels pipe line oil daily at 2496 feet. Thomas Dix 5 began pumping 1392 barrels of fluid daily, 15 per cent water, at 2535 feet. Posey Baker 8 commenced pumping 1080 barrels pipe line oil daily at 2545 feet. Cercy Anderson 3 was completed at 2550 feet. Early this week Gulf Production Company was drilling below 2000 feet in five other wells. Thomas Dix 6 was drilling Austin chalk at 2150 feet; Tadlock 3 was in chalk at 2313 feet; Tadlock 4 in Eagle Ford shale at 2414 feet; and Dix-McKean 10 and 11 were both drilling in Austin chalk, the former at 2330 feet and the latter at 2380 feet.

Louisiana Oil Refining Corporation during the past week completed two wells on its Dix lease. No. 7 had initial production of 519 barrels at 2558 feet, and No. 6 was a 426-barrel well at 2555 feet. Humble Oil & Refining Company's Denman 16-A was completed for 800 barrels at 2565 feet; Denman 15-A is drilling at 2214 feet, following a fishing job.

The Texas Company during the past week completed two wells, both on its Knoblock lease. Knoblock 10-B came in September 27 producing 60 barrels per hour at 2495 feet; No. 11-B produced 20 barrels hourly at 2582 feet. Knoblock 5-A was ready to drill in September 30. The Texas Company at the latter date had two other wells nearing completion. Dallas Wilson 9 was in Georgetown lime at 2595 feet, and Parish 2 was in the Georgetown at 2571 feet.

First Important Oil Strike Made At Mykawa, Harris County

HOUSTON.—The first important oil production was established at Mykawa field, Harris County, when Humble Oil & Refining Company's Minnetex 3 came in Saturday, September 27, and on a six-hour gauge produced 140 barrels of pipe line oil ,testing 30 gravity, corrected, with the bottom of the well at 4873 feet. On September 30 the production was reported to be at virtually the same rate as on the first day.

The well is flowing through two-inch tubing, and is pinched in with a three-quarter-inch choke. It originally showed working pressure of 600 pounds, and the temperature of the oil at the well was 72 degrees.

The top of the oil-showing sand and shale from which the well is producing was logged at 4826 feet. A 30-foot joint of screen was set in the sand. The hole is cased with 9⅝-inch pipe. Location of the well is 100 feet from the south line and 125 feet from the west line of Block 252, William J. Lovett Survey.

This is the sixth well drilled at Mykawa by Humble Oil & Refining Company following favorable indications obtained there through a torsion balance survey, and aside from the wells of that company, two were drilled within the past year by two other companies, Houston Oil Company and Watts Drilling Company.

Of the seven former tests in the field, one was completed as a gas well and later began producing a small

amount of oil, while another was temporarily completed as a gas well, but was later deepened and finally abandoned. The other five wells were failures, although some of them had fair oil or gas showings. The present producer is considerably west of any of those earlier wells.

It is 2100 feet west and 1000 feet north of Humble Oil & Refining Company's Minnetex 1, first well drilled on the prospect following the geophysical work, and 1200 feet west and 1300 feet south of Minnetex 2. Minnetex 1 tested a sand at 5500 feet and flowed salt water, and was abandoned in shale at 5811 feet, while Minnetex 2 was abandoned at 1215 feet. The same company's Siadous 1, a direct north offset to Minnetex 2, came in about November 1, 1929, at 3450 feet as a gas well with estimated capacity production of 25,000,000 cubic feet daily, but it later went dead and was drilled deeper, encountering gas showings at 3650 feet and at 4125 feet, producing some 39 gravity oil but not in commercial quantity at 4935 feet, and finally being abandoned in shale at 5900 feet. The present producer is 1600 feet south and 1200 feet west of Siadous 1.

The other two wells drilled at Mykawa by Humble Oil & Refining Company were Irvin 1 and 2. The present well is 1350 feet south and 2450 feet west of Irvin 1, while Irvin 2 is only 50 feet north of No. 1, the No. 1 having been junked and abandoned at 3800 feet. Irvin 2, however, was an interesting test, having been completed as the discovery well of the field. Its location is in the W. B. Walker Survey. About August 15, 1929, it came in at 4189 feet as a gas well with estimated open flow capacity of 40,000,000 cubic feet daily, registering 1350 pounds pressure on tubing and 1500 pounds on the casing. It was shortly afterward tied in to Houston Pipe Line Company's natural gas system and produced commercially for a while. About three months after completion, however, the gas pressure having declined considerably, the well began producing some high gravity oil, the daily output reaching approximately 25 barrels daily.

The other two wells drilled at Mykawa during the past year were Watts Drilling Company's Hubert 1 and Houston Oil Company's E. G. Siadous 1, both located in the William J. Lovett Survey, north of any of the Humble Oil & Refining Company tests. Watts Drilling Company's well tested salt water at 4725 feet, drilled to 5675 feet, sidetracked and tested salt water at 4600 feet, and was abandoned. The Houston Oil Company well had oil and gas showings around 4200 feet and around 4600 feet, but was abandoned at 6675 feet.

Refugio Deep Test

Houston. — Independent Oil & Gas Company's Jerry Reilly 6, now the deepest well ever drilled at Refugio or in that section of South Texas, was reported late last week drilling at 7278 feet.

Houston Oil Company the past week completed P. A. Johnson 1, Block 63, at 5629 feet. It came in producing gas and spraying high gravity oil, showing 2100 pounds pressure.

Two wild wells in the field were brought under control during the past week. Luling Oil & Gas Company's West 1, Block 81, blew in as a wild gas well at 6470 feet, with casing set at 6465 feet, but was brought under control and completed as a gas producer. The other recent wild well was Pearson Properties' Ryals 3, total depth of which is 5760 feet. A Christmas tree was successfully installed on the well and it was then brought under control and completed as a gas and gasoline producer with 2000 pounds pressure.

Barbers Hill West Extension In Prospect

Houston.—A 2000-foot westward extension of deep production on the north flank of Barbers Hill dome was in prospect September 30 as Mills Bennett Production Company was making preparations to set screen at about 5125 feet in Barber 3 to test a particularly promising oil said.

An interesting feature of the well is that it was drilled through a large thickness of cap rock and salt before encountering the oil sand. It entered salt at 1619 feet and passed through a little over 1500 feet of salt, emerging from that formation and going back into sedimentary formation at 3131 feet. Below the latter depth it has had several fair oil showings in addition to the one in the sand now being tested.

Another deep well was brought in on the west side of Barbers Hill during the past week when Mills Bennett Production Company completed H. E. Fisher 1 at 6500 feet. It began flowing 1050 barrels of 35 gravity pipe line oil daily through a one-half inch choke, following setting of two joints of 4½-inch screen.

Sun Oil Company's Wilburn Fee 9 at Barbers Hill came in during the week flowing 400 barrels 26.5 gravity pipe line oil daily at 5171 feet, and Sinclair Oil & Gas Company's McKinney Fee 3 was completed for 150 barrels daily at 5275 feet.

Bayou Choctau Established as Salt Dome

Houston.—Bayou Choctau or Grosse Tete dome prospect, Iberville Parish, South Louisiana, was definitely established as a salt dome recently when Texas Gulf Sulphur Company drilled into salt in Wilbert 3, Section 35-9s-11e. The test was abandoned at 650 feet after drilling a few feet into salt. Aside from that well, Texas Gulf Sulphur Company has also recently abandoned Wilbert 1 and Wilbert 2 in the same field, each around 1800 feet. In the meantime operations have been started on three other locations on the same lease. This dome was discovered several years ago by Gulf Refining Company of Louisiana using seismograph, and Texas Gulf Sulphur Company, which has the sulphur rights under an arrangement with Gulf Refining Company, is testing the possibilities of the field for production of that product.

Abandon Hackberry Dome Deep Test

Houston.—Federal Petroleum Company's Hebert 1 on the southeast edge of Old Hackberry dome, Cameron Parish, has been abandoned in shale at 7830 feet, after gaining the distinction of being one of the deepest wells ever drilled in South Louisiana. Its depth has been exceeded in only a few instances, for example by several wells of the Yount-Lee Oil Company and The Texas at Evangeline. The test was in Section 33-12s-10w.

To the east of Old Hackberry, about mid-way between that dome and the East Hackberry dome a deep wildcat test, Portier 2, is being drilled by Yount-Lee Oil Company. It was recently drilling shale at 5205 feet.

Operations in the East Hackberry field include three wells being drilled by Calcasieu Oil Company, one by The Texas Company, while several new locations have been made by Yount-Lee Oil Company on a state lease in Kelso Bayou near where it runs into Calcasieu Lake. The prospects of that flank of the dome appear promising, as Calcasieu Lake recently completed a 3000-barrel well there on its Isaac Doiron lease.

Second Sand in Cosden Pool

Houston.—A second producing horizon is expected to be opened in the Cosden pool west of Pettus, Bee County, as a result of favorable showings found in Bates Oil Company's Barnett 2. That well logged the usual producing sand of the field at 3649-60 feet and probably would have made a small producer at that level, but it was decided to drill deeper, and sandy shale with oil show was reported from 3890 to 3894 feet, while there was gas sand from 3894 to 3934 feet. The well was waiting on orders early this week.

In the Pettus townsite Weinert et al completed No. 1, Block 22, for 800 barrels daily through a three-quarter-inch choke in sand from 3874 to 3904 feet.

Korona Oil Company's Quincy 1, wildcat in the A. J. Moyah Survey, Bee County, 12 miles southwest of Beeville and 25 miles southeast of Pettus, is pulling screen to drill deeper from 4949 feet. It furnished some interest during the past two weeks as result of blowing in September 12 as a wild gas well with odor of oil, following which casing was set. For a test 126 feet of screen as set in the sand, and the well built up pressure of 375 pounds flowing through tubing and a three-eighths-inch choke, but later went to salt water.

E. M. Jones has made location for Rapp 3, a wildcat near Tuleta which will prove interesting. The location is 630 feet from the northeast line and 508 feet from the southeast line of the south 85 acres of Section 4, Jose Maria Uranga Survey, Bee County. It is approximately 1300 feet north of Rapp 1 and Rapp 2. No. 1 had a gas show at 3094 to 3118 feet, but drill stem test failing, the hole was drilled to 6062 feet and finally abandoned. No. 2, which was 125 feet south of No. 1, tested dry on drill stem test at the level of the gas sand found in No. 1 and was abandoned.

Complete Deep Sulphur Workover

Houston.—In the Sulphur field, Calcasieu Parish, Louisiana, Union Sulphur Company has completed Fee 734, a workover, as an 800-barrel flowing well at 5500 feet. It is one of the deepest producers in that field, some of the wells there being only a little more than 3000 feet deep. The top of the sand in Fee 734 was logged at 5485 feet.

The Sulphur field is owned in fee by Union Sulphur Company, which formerly operated it for sulphur for a quarter of a century. In the present oil development around the flanks of the dome, the company is operating four drilling rigs.

Abandon Lafayette County Test

Houston.—Pure Oil Company has abandoned Manmotin 1, first test on a geophysical prospect in Lafayette County, Louisiana, one mile south of Carenco and five miles north of Lafayette. It had reached the depth of 6750 feet and at that point was drilling shale. Location of the well was in Section 33-8s-4e. No promising oil or gas sands were reported.

Get 2500-Barrel Well in Madison on Garland Dome

Byron, Wyo.—Ohio Oil Company brought in another black oil field to add to the state's long list last week when it completed its Easton 1 on Garland dome, in the Madison lime at 4420 feet for an initial production of 2500 barrels per day. The crude has a gravity of 18.5 degrees. The well has been shut in because of lack of a market. Along with the oil there is a flow of about 5,000,000 feet of gas.

The Garland structure and the Byron structure (also recently proved for oil by Ohio Oil Company) are but 2½ miles apart, with the town of Byron between. It is one of the largest in the state, being about nine miles long and two miles wide, containing some 15,000 acres which should be productive. It has a closure of 3000 feet. Control of most of the acreage lies with four companies, Producers & Refiners Corporation and the Kinney-Coastal Oil Company together own 2500 acres on which there is one gas well, and the Producers & Refiners Corporation alone holds 800 acres. Utah Southern Oil Company owns 760 acres. The Garland dome has been previously proved for gas, and at the present time is supplying a share for the Elk Basin-Billings pipe line.

Outcome of North Belridge Deep Drilling Significant

Taft, Calif.—The outcome of present deep drilling in the North Belridge field should have a decided effect upon future development over a wide district, with the Lost Hills and South Belridge fields to be tested in the Temblor zone if this formation is productive in any of the deep wells now being drilled. Besides Belridge Oil Company, which discovered the Temblor zone in the North Belridge field nearly a year ago, General Petroleum Corporation, Richfield Oil Company, Ohio Oil Company and Rio Grande Oil Company are drilling in the general district.

Most of these wells are within the proven producing limits of the shallow zones, but are regarded as wildcats in the deeper sands. After drilling through additional streaks of oil and gas sand, Belridge Oil Company has developed a fishing job in No. 15, which is regarded as the key well in the Belridge district. General Petroleum Corporation has started drilling in Berry 1, having installed one of the most modern layouts ever assembled in the field.

Ohio Oil Company, a comparatively new entry into California fields, is starting a well near Belridge Oil Company's No. 15, and will test the possibilities of the Temblor zone in the North Belridge field. Union Oil Company holds a large acreage in the field but is not anxious to develop a deeper production at this time because of poor market conditions. The Lost Hills field lies roughly between the North Belridge and Kettleman Hills fields and discovery of commercial production in the North Belridge field or a portion of the South Dome at Kettleman Hills would place the narrow producing strip in a favorable condition.

Get Oil Strike Near Coleman, Texas

Coleman, Texas.—Wildcat efforts of C. S. Wilmott and associates on the Mrs. Beulah Taylor land established a high gravity oil area near the west edge of the town of Coleman, with an estimated production of 30 barrels daily when pumped from sand at 2640-50 feet. This new strike is located in the southwest corner of the SE of SW of the W½ Section 282, H. & G. N. Ry. Survey. Atlantic Oil Producing Company has a block of acreage to the northwest, and shares in the above strike through having made acreage donation.

Field work is steadily gaining in vicinity of Arcadia Refining Company's Frank Golson 1, which opened a new oil area on the southwest edge of Burkett, Coleman County, early in September, but no pipe line connections have been made available. Goslon 1 made an initial of 350 barrels flowing natural from Cross Cut sand at 1576-77½ feet.

News From California Fields

BRAD MILLS, ***Staff Representative, Los Angeles, California***

California Production Declines to Lowest Figure in Years

LOS ANGELES.—Production is again showing a decline in California and at the end of the current week the output had dropped to around 590,000 barrels, the lowest total recorded in several years. Average production for the week was well above the low point at the end of the period, but the net loss over the previous week indicated a concerted effort to make the new 540,000-550,000-barrel schedule effective. When the unobtainable curtailment of 7000 barrels at Santa Fe Springs, the 10,000-barrel excess at Kettleman Hills and the 18,000-barrel output at Playa del Rey are considered, production is only 15,000 barrels above the 575,000-barrel total, which is in reality the objective under the present program. Any progress made toward eliminating the three handicaps just mentioned should bring the state output just that much nearer the base allowable of 540,000 barrels.

The 30 fields under supervision of H. P. Grimm are given an allowable of 352,000 barrels. To this must be added the unobtainable curtailment of 7000 barrels and the 10,000-barrel Kettleman Hills excess to make a total expected production of 369,000 barrels. At the end of the week actual production of this group of fields had declined to 362,000 barrels, or 7000 barrels under the allowable, plus the overages which were expected. This is considered an excellent showing and indicates that these 30 fields may soon be producing only their base allowable.

Playa del Rey would be given a definite allowable and placed in the regular order, but in the absence of a recognized market nothing can be done. Since little progress has been made toward reaching an agreement on the curtailment plant, this field is regarded as an "outlaw" and is recognized only in the potential column. All production might be classed as excess, although a certain percentage of the potential would be allowed under the regular conservation schedule.

Elwood is allowed a production of 35,000 barrels under the latest schedule, but the output has been reduced to 27,000 barrels. This is a very commendable move, but the real reason for the small production is found in the anticipation of flush production from new wells. Under the latest ruling, the operator must absorb in advance excesses caused by completions. One operator has an entire lease shut in to make sure that he may be allowed to test his well without restraint. This ruling prevents troublesome excesses and discourages intensive development in flush fields. A recent completion produced more than 57,000 barrels of oil during a five-day flow test. A steady stream of such wells would demoralize a curtailment plan if no penalties were assessed for over-production.

A ray of hope is seen in the decline of producers at Kettleman Hills. The belief that these wells have practically no decline is held by those not familiar with the action of the producers. Every well in the field has staged a steady decline and where offsets have been completed the output of the older producers has dropped sharply for a short time.

Unit Plan at Kettleman

A unit plan of operation seems to hold most promise for the development of Kettleman Hills. Such a plan would be more acceptable if all of the major operators of the state could participate. Two or three majors do not hold acreage in the field, but are attempting to obtain a foothold. Important announcements are expected to be made within three weeks, resulting in the entry of at least one major company and the possible retirement of smaller companies. Such a development would do much to simplify a unit plan of operation.

The reduction in California stocks during August reflects curtailment measures and definitely ties in with the conservation program. While it is true that the greatest reduction was in the heavy oil column, this drop was an entirely welcome development. The heavy oil market, which includes all grades of fuel oil, has been depressed and this branch of the industry has suffered from over-production of light oil. The drop in stocks of 818,000 barrels leaves a total of 111,431,519 barrels on hand. This is regarded as double the amount which should be carried in the heavy oil column. The small decrease in refinable crude stocks during the month was better than none at all, but a much greater drop should have been recorded during one of the peak summer months. The light oil stocks of 41,702,823 barrels are regarded as far too high. Gasoline stocks stand at 16,259,805 barrels, with other stocks bringing the grand total to 181,223,790 barrels. The curtailment program has been based largely upon the necessity for reduction of stocks and ties in with a plan for bringing storage of the various commodities down to the desired level after a long period of time. Both light and heavy oil stocks soared to dizzy levels and only the timely inauguration of the curtailment plan prevented a complete collapse of crude demands.

The decline of consumption entered into the situation and would have made continued over-production even more serious. Only a smaller production of crude oil will bring about a steady decline of stocks during the winter months. Heavy inventories have played havoc with at least two major companies and the cost of carrying stocks has been felt by smaller companies. Two major operators and many smaller ones have not been burdened with excess stocks but have joined in the curtailment move to protect their own interests. It is obvious that any plan severe enough to reduce stocks sharply will prevent the companies having a limited production from obtaining crude as easily as those having excess outputs of refinable crude. Even the operators having no more crude than they need have expressed a desire to reduce stocks of other com-

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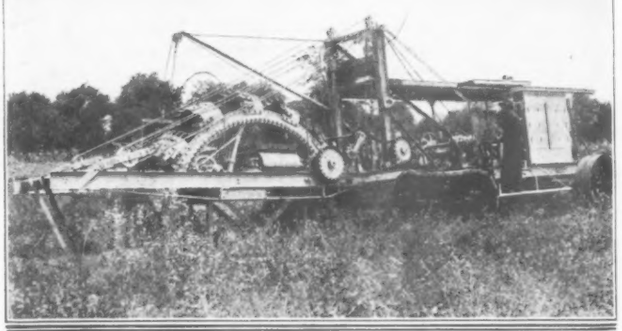

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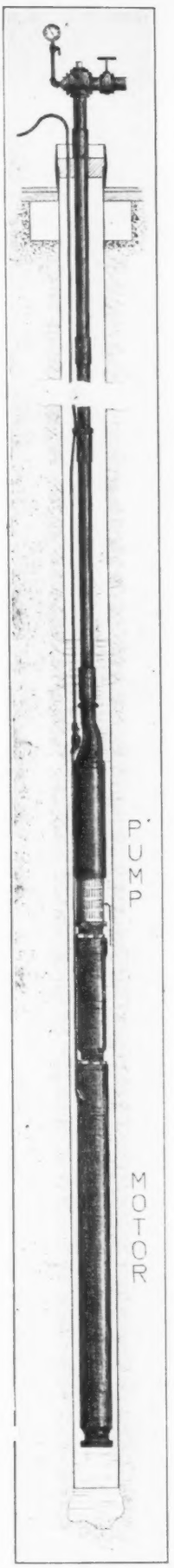

panies, however, as they are in the nature of a menace, in that they hang over the current demand for crude. Even if it becomes necessary for certain operators to draw on the stocks of others, this could be done without the payment of exorbitant prices for crude.

Gas Law Functionless

Curtailment and the gas conservation law were supposedly fighting the same battle, but the latter got sidetracked along the line and has failed to accomplish much in the matter of conservation. The injunction which is partially in force at Santa Fe Springs has helped some, but the curtailment program was the mainstay, even in this field. When the gas saving law was passed, it was heralded far and wide as the probable savior of the industry. The state started action immediately but the story of the long hearings is too well known to repeat. Through elimination of gas waste, major operators had hoped to force production down to the correct level. The law was aimed at over-production of oil, although it specified gas as the basis of the offense. At least the oil companies sponsoring the law desired a reduction in crude. In fairness to state officials, it must be admitted that they were anxious to reduce the gas waste, their motives having been more along the lines specified by the statute than those held by the average curtailment advocate. The veiled nature of the law has nettled small operators who were opposed to such a statute in the beginning.

Except at Kettleman Hills, gas waste is not so acute as it was a few months ago and naturally has a smaller bearing on curtailment of oil than generally suspected. A year ago elimination of gas waste at Santa Fe Springs and Long Beach would have reduced production sharply, but the present status reveals a waste which would not reduce production radically if eliminated. This condition has been brought about, however, by previous application of curtailment measures, a large production of gas being shut in. Increased use of natural gas and a natural decline in fields formerly yielding the greatest excesses have partially relieved the situation, despite its acute nature in at least one field.

Kettleman Hills could be controlled if the gas saving law could be enforced; but several factors over which the state has no control complicate matters. The pressures are so high that wells cannot be shut in and lease requirements are not conducive to curtailment on many fee tracts. Two operators have expressed a willingness to suspend drilling operations on fee land, but landowners are demanding further development of their holdings. The state's case against all operators on the North Dome has been postponed again, pending a decision by the state Supreme Court on the constitutionality of the act. A decision is expected by October 1, the case to be called for hearing October 6.

If the state Supreme Court decides that the statute is unconstitutional, curtailment will suffer a moral blow, even if the decision does not have an immediate effect upon production. The outcome of the Santa Fe Springs hearing was favorable to the state's cause, but the decision of the Superior Court which heard the case against Long Beach operators was entirely favorable to operators opposed to the law. The law is needed as a possible compromise measure and would undoubtedly prove helpful in the future where flush fields are involved. The production situation involves the waste of gas much more than commonly supposed, and elimination of what is now a doubtful statute would be felt in the future. The question of the right to operate oil property as the owner sees fit is involved, the state claiming that where the public welfare is in jeopardy it has the right to limit or supervise development.

Playa del Rey Drilling Continues Increase

LOS ANGELES.—Field activity at Playa del Rey increased sharply during the past week, despite several unfavorable developments and the possibility that most of the edge wells will not develop enough gas to flow without aid. Small operators continue to marshal their forces and start wells in the face of a small average initial yield of producers and without regard to their own limited resources. Belief that each lot will yield the best individual producer to be completed in the field is held by many small tract owners, and such a theory can lead only to the beginning of many more wells. In certain parts of the field, completions show little life and reflect edge conditions in no uncertain way. Both the upper and lower zones are spotted and a fair well on one lot does not make possible a similar completion on adjoining lots. Several wells have died and no outstanding completions have been recorded during the past three weeks. A high water cut has not been unusual in a few completions in the southern part of the field and the oil sand has been far from uniform.

Joseph M. Devere completed Baby Joe 1, with an initial production of 1750 barrels, but spasmodic flows and a cut of 20 per cent reduced the importance of the completion. Pacific Western Oil Company, one of the largest independent operators in the field, completed Stanley-Leiber 1 as a 550-barrel well in the deep zone at 5950 feet. Although a small producer, the oil is clean and the well one of the shallowest finished in the deep zone. Pacific Shore Oil Company succeeded in completing Strain 2 with an initial flow of 500 barrels from 4105 feet, while J. L. Clarke's Venice 1, after starting off at a 1500-barrel rate, has settled down to a steady flow of 750 barrels of 20 per cent cut oil. Star Petroleum Company's Venice 3, completed a week ago with an initial production of 1200 barrels, has declined to 950 barrels of oil cutting 20 per cent. George F. Getty's Venice 3 on the Del Rey tract flowed at the rate of 500 barrels when swabbed but in the absence of a suitable gas pressure the well has been placed on the pump. This shallow zone producer was drilled to 4185 feet. Several other small wells have been completed but a study of the list fails to show much hope for operators on edge tracts. Sand and water are not a serious menace but the fact that several wells have died is a very unfavorable development. Ohio Oil Company's Del Rey 2, an outpost test in the southeastern part of the field was swabbed and produced some oil, but will not make a consistent producer in its present status.

Geologists are busily studying the action of the various producers and average opinion does not place the field in a very favorable light. Where a peak production of 50,000 barrels was predicted three months ago, a top output of 30,000 barrels is now indicated by private surveys. With nearly 150 wells drilling, however, some geologists believe that regardless of the action of the wells, a peak far above the present 19,000-barrel level will be reached, with a peak of 60,000 barrels not impossible.

August Tanker Shipments Decline

Los Angeles.—Tanker shipments from the Pacific Coast territory during August, including all commodities, totaled 7,215,806 barrels, as compared with 7,962,831 barrels during July and 8,137,689 barrels during August, 1929. Shipments of crude oil totaled 599,323 barrels, of which 208,395 barrels went to Atlantic foreign ports and 390,928 barrels to Pacific foreign points. Gasoline shipments totaled 3,751,499 barrels, fuel oil 2,034,622 barrels, and with the remainder being divided among other classifications.

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North Dome Operators Are Conservative In Development

Coalinga, Calif.—Operators on the North Dome at Kettleman Hills have been very conservative in their plans for development of fee land which is not necessarily bound by provisions of the agreement to shut down wells on government permits until July 1, 1931. A few new locations have been made and others are planned, but the tendency to drill offsets only where there is danger of drainage has done much to limit development.

Completion three weeks ago of Superior Oil Company's Huffman 1 as a 12,000-barrel producer at 8323 feet was responsible for a new location by the company on the same section. Standard Oil Company has found the Bentonite marker at 6860 feet in No. 29-J65, which is an offset to Superior Oil Company's Huffman 1, and will cement a string of nine-inch casing to the top of this formation. Concentration of field activity to the fee land is expected. Continental Oil Company is drilling at 3700 feet in Elliott 2-16, an offset to producers in the heart of the North Dome, while Milham Exploration Company, discoverer of the field, is starting a well on Section 1-22-17 and well within the proven area.

Standard Oil Company owns more than one-half of all land in the Kettleman Hills field but has made no effort to develop a large production of the very light crude produced here. The company does have three producing wells, but under the terms of the original agreement was allowed two, and was forced to produce a third as an offset.

Many Leases Near Bakersfield Surrendered

Bakersfield, Calif.—General Petroleum Corporation, Shell Oil Company, Standard Oil Company and several other companies have recently quitclaimed or otherwise surrendered many leases within a radius of 10 miles of Bakersfield, following a long rental, lease and bonus period during which several booms failed to yield commercial production on the lands involved. The Fruitvale, Union Avenue, Edison and Kern Front leasing and drilling campaigns took a heavy toll from leading operators who were outside the field limits or who participated in development of structures which were outright failures. Concentration over a block about 15 miles square necessitated the leasing of much land not regarded with favor in the beginning. Standard Oil Company relinquished a large acreage near the Bakersfield city limits and between the city and the Fruitvale and Kern River fields.

Associated Withdraws From Cat Canyon

Santa Maria, Calif.—Withdrawal of Associated Oil Company as a purchaser of Cat Canyon crude will materially reduce the output of this unique field unless other outlets are found by operators who have been selling most of their production to the retiring company. Palmer Union Oil Company, largest producer in the field, will suspend operations on one lease and produce another to meet the reduced outlet. Production from the Cat Canyon field does not exceed 3500 barrels per day, but this oil fills a definite need in the district, yielding chiefly fuel oil and road oil.

Porterville Development at Standstill

Tulare, Calif.—Withdrawal of several small operators from the Porterville district is expected, following failure to develop production in more than one well. In reality the structure is still unproven, since what is referred to as the discovery well is pumping about 30 barrels of oil and twice as much water from 918 feet. Several of the 20 wells which were started are now idle and in the absence of a real producer may not resume operations until more favorable developments. Western Oil & Exploration Company's Gardiner 1 was placed on the pump at 1020 feet but produced only a few barrels of oil with 200 barrels of water.

Elwood Well Establishes 12,765-Barrel Potential

Santa Barbara, Calif.—After establishing a potential production of 12,765 barrels during a four-day flow test, Barnsdall Oil Company's Tidelands Permit 88-5 in the Elwood field has been beaned back to a small percentage of its maximum flow. This well broke all records for the field and was the largest completed in California for several years. Although four beans were used during the test, the well was not allowed to flow "wide open" through the casing as has been reported.

A comparatively small flow line was used to handle the entire production between the well and storage tanks. Completed at only 3457 feet, the well practically paid for itself during the short flow test. Drilling of tideland permits probably will show a decline in this field, due to the unusually severe cuts given production by the curtailment schedule. More than half of the field lies outside the mean high tide line and the best completions have been obtained from these ocean producers.

Plans are being drawn to develop the permits almost to their outer end, a distance up to 4000 feet from the shore. The ocean is little deeper near the end of these permits than at intermediate points a short distance beyond the present drilling limits.

Deepening Continues At Los Cerritos

Long Beach, Calif.—The completion of a few fair producers around 7500 feet in the Los Cerritos extension of the Long Beach field has been responsible for increased activity in this sector, with the deepening of several small producers to include this zone accounting for a large percentage of the projects. With the initial production of a few of these newest recompletions running past 1000 barrels, several wells have been killed in the 7000-foot zone for deepening to the latest objective. The drilling cost of the additional 500-600 feet has been offset in several instances by the increased production and deepening of the shallower wells is not an unusual practice. The southeastern part of the field is still claiming a good part of attention and leasing just outside the present producing limits may extend production slightly. Richfield Oil Company completed Fry 3 with an initial production of 1050 barrels at the intermediate depth of 6402 feet. Several other good wells were completed at various depths between 6000 and 7500 feet.

Petroleum Accounts Society Meets

Los Angeles.—The Petroleum Accountants' Society started its fall and winter activities September 25, with a dinner meeting held at the Commercial Club. Headed by A. J. Olmsted of the Chanslor-Canfield Midway Oil Company, the society is sponsoring an ambitious program for the present season. The evening meetings just starting will take the form of serious investigative studies of the many problems met in accounting for the petroleum industry. In the interest of thorough presentation and treatment, subjects are dealt with by sub-committees in accordance with branch classifications. The general classification and sub-committee chairmen are: Production, E. C. Rogers, Union Oil Company; refining, R. S. Minkler, General Petroleum Corporation; marketing, Edward Brady, Richfield Oil Co[illegible]ny; gasoline, C. E. Spangler, Western States Gaso[illegible]ith the [illegible]ation, and taxes, L. C. Glendenning, Union Oil [illegible]

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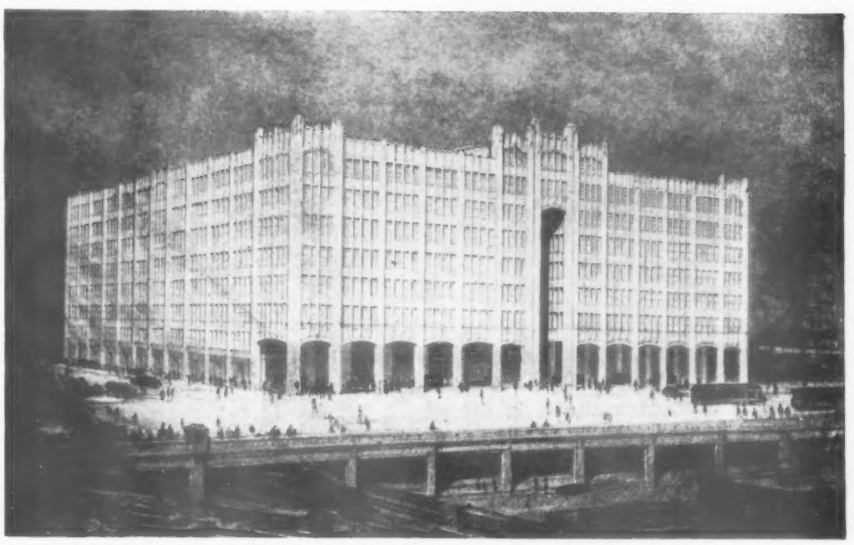

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Profit depends upon production efficiency—waste cannot be tolerated in a properly operating organization. That's why Nationals received whole-hearted approval when test after test substantiated claims of superior service. Popularity without performance is as rare as rain without moisture!

This photograph illustrates a Number One National Separator placed in the Seminole, Oklahoma Field in 1926.

NATIONAL SEPARATORS NATIONAL TANKS

"IT'S A NATIONAL" has stood for *Superior Performance*

AN unqualified guarantee on the workmanship, strength, performance and efficiency of every separator we manufacture is your protection but the undeniable stamp of approval of your field engineers is absolute assurance of highest quality, performance and dependability.

If separator problems ever require equipment of different design and construction, you can depend on National Engineers to build it.

May we send you our new catalog?

This photograph illustrates two National Separators as they appear today. The method of separation remains the same — only minor exterior changes have occurred since this first National Separator was built. Performance was then, and is now, the basis of choice.

Louisiana--Arkansas Field Notes

Second Zwolle East Field Extension Well Completed

SHREVEPORT.—Indications that the four mile east and one mile south extension of the Zwolle east field in Sabine Parish, Louisiana, will connect up with the center of production in the east field proper were strengthened Thursday, September 25, when Loring Oil Company's Trammell 1, located 330 feet north and west of SE SW NW Section 4-7-11, started heading oil while being bailed in the Zwolle chalk at 2333 feet. The well is one-fourth of a mile northwest of Pelican Natural Gas Company's Louisiana Long Leaf 3, Section 4-7-11, which definitely opened the four-mile extension several weeks ago when it came in as a flowing well and is still maintaining a daily yield of over 1300 barrels. Six and five-eighths-inch casing had been set in the Trammell test at 2270 feet. The well is showing some gas along with the oil.

Definite action toward getting pipe line outlets for two of North Louisiana's recently opened Trinity horizon gas fields, is expected during the next several days. Plans have been announced by Texas-Louisiana Pipe Line Company, a subsidiary of United Gas Company, to lay a 13-mile 14-inch line to R. W. Norton's Hill 1, Section 33-23-16, north Caddo Parish, Rodessa district, which was recently completed in the Trinity at 5506 feet making slightly less than 12,000,000 cubic feet of gas daily. It will connect with the trunk line to the Pine Island field. This is taken to mean that United Gas Company has acquired Norton's well and surrounding 5000 acres or has an interest therein. The two latest tests to be launched there have been in Texas-Louisiana Pipe Line Company's name.

During the present week Triangle Drilling Company, Louisiana Gas & Fuel Company and Standard Oil Company of Louisiana are expected to make a definite decision as to the disposal of the rich gas obtained in the upper Trinity in three gas wells in Sugar Creek district, Claiborne Parish. It is regarded as likely that the gas will be sent to Louisiana Gas & Fuel Company's trunk line some eight or 10 miles away. The owners also plan erection of a gasoline plant on its acreage at Sugar Creek and plans for starting the work are expected to be announced soon. Rigging up is under way on two new tests launched during the last week in that district, one being Brownfield 1, NW NE Section 6-19-5w, and the other J. W. Stevenson 1, SW SE Section 6-19-5w, the latter being a south offset to the second of the trio of gas producers.

Abandon Bellevue Test

Another Trinity horizon test which was closely watched during the week ending September 27 was Natural Gas Products Company's Tom Moore 3, B. C. Jordan Survey, Panola County, Texas, which was bailed at 4666 feet. Bailing was suspended over the week-end for lack of more bailing line. This test offsets the lone Trinity gasser in that field which is owned by the same company.

H. I. Morgan and Shreveport-El Dorado Pipe Line Company's Kendricks 3, Section 22-19-11, on the southwest flank of the old Bellevue shallow oil field, offsetting Kendricks 2, of the same owners, has been abandoned as a salt water hole at 1964 feet. It had also tested salt water through drill stem at 1896-99 feet in sand. The Trinity in that area is badly faulted.

After deepening Pittsfield Plantation 1, Section 41-8-10e, Concordia Parish, in East Central Louisiana, to 1491 feet, Louisiana Gas & Fuel Company has completed it as a 3,000,000-foot gasser with rock pressure of 610 pounds. The well is also making much salt water, as it did when it first blew in at total depth of 1453 feet in the Jackson formation.

Standard Oil Company of Louisiana added a 116-barrel pumper to its Holly field production in De Soto Parish when it standardized Dowling Brothers 2, Section 5-13-13, at 2848 feet with eight feet of sand. Seven-inch casing was set at 2800 feet. The well is almost on a line between two of the field's producers.

Pelham and Bundy's Rhodes 1, Section 32-13-14, De Soto Parish, six miles southwest of Holly production, which recently made a head of oil, total depth being 3009 feet and sand being present from 2985-90 feet, has been standardized and is pumping 40 barrels of fluid daily, 25 per cent salt water.

The east and southeast fields of Zwolle continue to be the most active areas among oil fields in this territory. There are nine drilling operations in the southeast sector to which were added two new locations during the last week. In the east and north edges of the east field there are seven tests under way to which were added two new locations, both by Dixie Oil Company, during the last week. In that locality Loring Oil Company's Schuffert 1, Section 27-8-12, was put on the beam in the Zwolle chalk at 2450 feet, pumping 25 barrels of oil daily. In the same section The Texas Company abandoned Giaque 1 as dry at 2422 feet, although it showed a little oil.

Spud in Sabine Wildcat

Wilson and Sons have spudded in Gandy-Garrett 1, Section 4-5-12, a wildcat in south Sabine Parish, and are underreaming 10-inch casing at 660 feet after setting 15½-inch pipe at 65 feet and 12½-inch at 286 feet. Teteco Oil Company is rigging up to clean out Louisiana Long Leaf 1, Section 18-6-12, Sabine Parish, six miles south of Zwolle production. This test had a gas blowout in the 4000-foot horizon and drill stem was hung in the hole. Two miles south of west Zwolle production Magnolia Petroleum Company tested salt water through drill stem at 2780 feet in Giaque 1, Section

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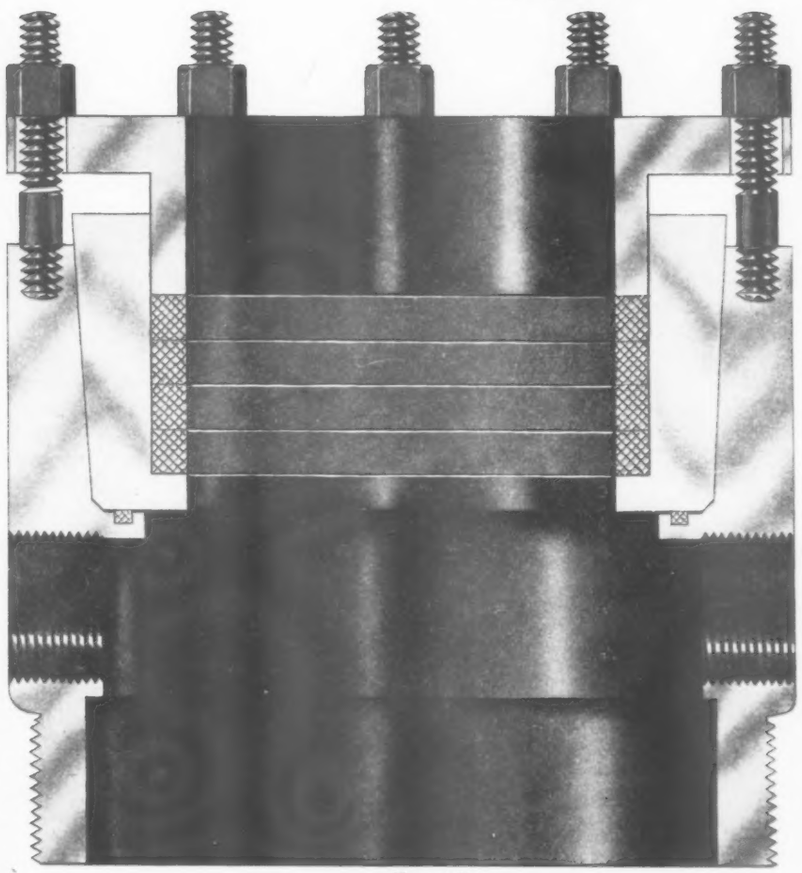

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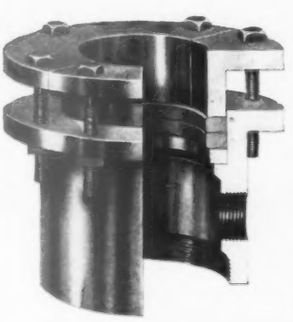

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26-7-14, Sabine Parish, and is drilling gummy shale at 2822 feet.

Cooper and associates have set drill stem with packer and are trying to bail in a wildcat test in Natchitoches Parish, through the drill stem, in 10 feet of chalk rock at total depth of 1290 feet. The test is Cooper 1, Section 35-11-10. The same operators have spudded another test in the same area, Louisiana Delta Pecan 1, Section 32-11-10, which is drilling below 800 feet.

Triangle Drilling Company has deepened McDermott 1, Section 28-18-6w, Bienville Parish, 10 feet to total depth of 2270 feet in a sandy lime formation and is arranging to test, after having bailed dry at 2260 feet. This well tested 10 feet of light oil and one fourble of mud through drill stem last July. The formation is Nacatosh. The test is a wildcat.

Good progress is being made on J. E. Crosbie, Inc., and associates' G. L. Murphy 1, Section 13-16-16, intended as a 4500-foot test for the west flank of the Smackover field in Union County, Arkansas. Twelve and a half-inch casing was set at 200 feet and the well was below 1325 feet on September 25. T. Luckett's Balcon 1, Section 36-7-21, a wildcat in Yell County, shut down in black shale for some time at 5305 feet, has resumed and is drilling around the 5400-foot level. Graves and associates' Walker Trustee 1, SW SW Section 9-14-18, six miles north of Mount Holly production, in Ouachita County, Arkansas, topped the Nacatosh at 1352 feet and is drilling below 1575 feet.

Hope of adding a fifth producer immediately in the Urbana district of Union County dimmed when Marine Oil Company's P. Winn Estate F-1, Section 10-18-13, tested salt water through drill stem from 3545 to 3560 feet. Pay is usually picked up at that level. The test is now coring lime at 3584 feet.

Jackson Gas Well May Gauge 30,000,000 to 100,000,000 Feet

JACKSON, Miss.—Speculation as to the size of the Jackson gas field's recently completed gasser, Pearl River Oil & Gas Company's Pate 1, SW NE Section 12-5-1e, Rankin County, is rife here after failure to secure an accurate gauge of the well due to its great pressure. The well, which was completed in five feet of Midway chalk at total depth of 2417 feet on September 20, after 6⅝-inch casing was set at 2400 feet feet and after Midway shale was picked up at 2331 feet, is regarded by some as good for 75,000,000 to 100,000,000 cubic feet of gas daily, but the more conservative scouts place the capacity at 30,000,000 to 45,000,000 cubic feet daily.

No new gassers were recorded during the week ending September 28, leaving the number at 17. Jackson Oil & Gas Company has definitely abandoned Mayes 2, SE NE Section 2-5-1e, Hinds County, in chalk and shells at 2737 feet. Elevation is 269 feet. The well checked low, not encountering the Midway shale until 2482 feet, where 6⅝-inch casing was set which topped the Midway chalk at 2581 feet. The same company is plugging back from total depth of 2585 feet to 2450 feet in Mayes 1, SW NE Section 2-5-1e, an offset to the Mayes 2. This well, the first in which a real gas production was obtained in Jackson, showed much salt water along with about 2,000,000 cubic feet of gas daily. The gas from it has been run through separator and used for fuel in nearby drilling operations. Six and five-eighths-inch casing had been set at top of the Midway chalk at 2458 feet. The plugging back operations required 100 sacks of cement.

Gulf Refining Company, which has four gassers in the Jackson field and was the first major company to enter the area, made one new location during the week, this being Hamilton Estate 1, SW SW Section 4-5-2e, Rankin County, a half-mile east of the same company's Hartfield 1, in Section 12-5-1e, one of the larger gassers of the area. Several other locations are expected soon by the Gulf, which owns approximately 7000 acres of leases in this territory which now comprises approximately 25 square miles of potentially proven gas producing territory.

Amory Petroleum Corporation made two new locations in the Amory gas field of Monroe County, Northeast Mississippi, the first gas field in the state where there are two commercial wells. The locations which were selected by H. D. Easton, Shreveport petroleum geologist, who made locations for the two present gassers, are for Carter 3, center of SE SE Section 7-13-17w, an eastern offset to Carter 1, the discovery well, located in the same quarter-section, and Harris 1, center NW NW Section 18-13-17w. P. J. McAlpine, who has drilled all the tests at Amory, will have the drilling contract. Amory Petroleum Corporation is the name of the operating company which will do the development work for Mississippi Public Service Company, Incorporated.

Mississippi Public Service Company, Inc., is said to be a subsidiary of Southern Natural Gas Corporation, which recently completed a branch gas line from Pickens, Mississippi, to Mobile, Alabama, it having tapped the latter's 22-inch line from Monroe, Louisiana, to Atlanta, Georgia. Survey of a right-of-way from Amory to Tupelo, Mississippi, has been completed. A 12-inch line is contemplated. It is believed from the size of the line that it is planned, when more gas production is secured, to extend the line to Corinth, Mississippi, and possibly into South Tennessee towns.

Ohio Oil Company, which recently spudded in a 5000-foot test in Cantrell 1, NE NE Section 16-15s-5e, Clay County, set 80 feet of 18⅝-inch casing and is now drilling below 700 feet.

Alabama's last active drilling operation has shut down at 2500 feet in gray lime which shows shells and fossils, this being contract depth. The test is A. D. Morton's O'Neal Heirs 1, Section 8-2s-13w, Lauderdale County, near Florence, Alabama.

Chester County Oil & Gas Company, drilling a wildcat known as Montgomery 1, in Decatur County, Tennessee, has resumed drilling after a long shut-down at 1881 feet and is now drilling sand at 1962 feet.

Loreco to Run Smackover Crude

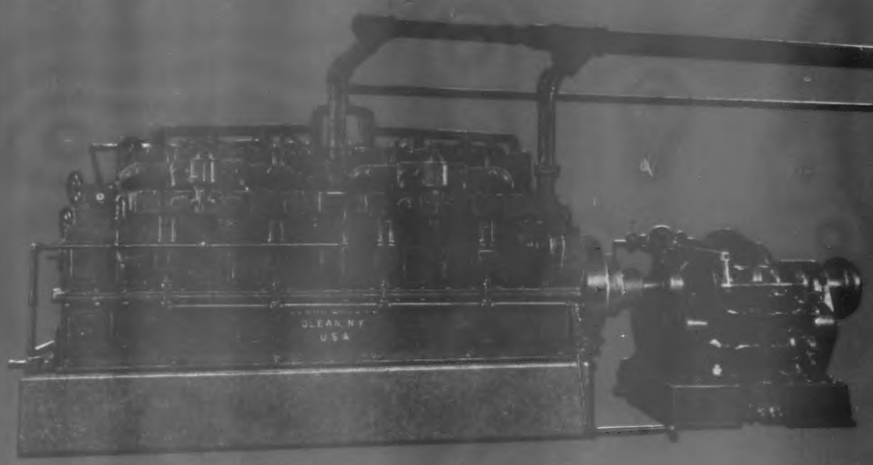
El Dorado, Ark.—Effective October 1, Louisiana Oil Refining Corporation discontinued delivery of heavy Smackover crude at the rate of 2500 barrels daily to Standard Pipe Line Company of Louisiana and began running the crude to its refineries at Shreveport. The company has also secured runs of 625 barrels daily of Smackover crude for its lines formerly handled by Root Refining Company.

Get Second Gasser in Upper Trinity

Shreveport.—Natural Gas Production Company brought in its second gasser in the upper Trinity horizon in the Bethany gas field of Panola County, East Texas, Monday, September 29, when Tom Moore 3, B. C. Jordan Survey, was bailed in at total depth of 4666 feet. Rock pressure was not taken. Although the well showed a trace of salt water when first brought in after it was shut in for a while and later reopened the gas was dry. This test is slightly over a fourth of a mile southeast of the same company's Roquemore 8, in the same headright, which was the first Trinity gasser in that field. Six and five-eighths-inch casing was set in the new gasser at 4360 feet.

MONTHS AHEAD.....

3 NEW ENGINES BY CLARK



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News From Rocky Mountain Fields

Get 4,000,000 Foot Gasser in Test Near Lander

Riverton, Wyo.—Standard Carbon Company has developed a flow of 4,000,000 cubic feet of gas in its test on the Little Buffalo Basin structure 40 miles southeast of Lander, on the northern edge of the Red Desert. A carbon black plant is being built to utilize the gas, and preparations are going forward to drill another well.

Several years ago Prairie Oil & Gas Company drilled wells on this structure, all of which developed gas in various sands, but one well, which was on the same section as Standard Carbon Company's present producer, developed 35,000,000 cubic feet in the same horizon—the Frontier—and some oil.

Standard Carbon Company's main idea at the present time is to develop gas for carbon black. Eventually, however, the oil which was developed in the company's initial test in the field will be marketed in the mining districts of Atlantic City and South Pass, about 25 miles west and north of the Little Buffalo Basin field. It is also a possibility that a gas line may be laid to this district which needs it so badly for fuel in the gold mines.

Poison Spider Test a Failure

Casper, Wyo.—Chicago Oil Company's attempt to develop oil production below the third Sundance sand in the Poison Spider field, west of here, has proved a failure. The test has been carried to the granite and is now being plugged back to the Sundance where there is a small gas production. In view of the fact that the well is about a mile and a half from oil production, however, it is believed that it is not a conclusive proof of the barrenness of the lower sands. The well found no noticeable Embar sand; Tensleep was found at 2500-2800 feet in the top of which was a five-foot saturation and in the middle of which a 10-foot saturation. Amsden sand was from 2800 to 3000 feet. There were two slight showings in this horizon, but neither was commercial. Madison was found from 3000 to 3248 feet, and it had one small show of oil and two shows of water. Deadwood was entered at 3248 feet, showing slight oil and small water production and the granite was reached at 4050 feet and drilled in 60 feet.

Milk River Test Has Oil Show

Great Falls, Mont.—An entirely unexpected showing of free oil was reported by W. D. Fulton interests last week in the wildcat being drilled on the Milk River anticline, east of Glacier National Park, in the foothills of the Rocky Mountains. The structure is similar in its location to that of the Turner Valley field, Southern Alberta. The oil showing was found at 600 feet, although none had been anticipated above 3000 feet.

Great Falls, Mont.—Shoshone Consolidated Oil Company, which drilled the deepest well in Montana on the Hamilton Coulee structure, is to be financed by August Belmont and associates of New York City, in a program to develop gas and oil structures in the vicinity of Big Timber. There will be seven wells drilled in this area, and gas is to be furnished to cities and towns west of Big Timber. The company's well is at present bottomed at 5800 feet with a considerable gas showing reported. A block of 60,000 acres is controlled by the Shoshone people in the district.

Prorate Kevin-Sunburst and Pondera Runs

Great Falls, Mont.—Announcement of proration of pipe line runs from the Kevin-Sunburst and Pondera oil fields, Northern Montana, was made by Ohio Oil Company last week. It will accept only 50 per cent from the first-named district, and 75 per cent of the second. Company stated that lack of market for the grade of oil produced in the fields was one of its reasons for the proration, and stated further that it did not wish to go into a winter campaign with large storage program. Announcement said, further, that the company preferred to maintain the present posted field price for the crude, rather than to lower it.

Put Dry Creek Well on Production

Red Lodge, Mont.—The discovery well on the Dry Creek structure, near here, is being put on production by Ohio Oil Company. An eight-inch pipe line from the field to Bridger has been converted from gas to oil and loading racks have been built on the Northern Pacific Railroad whence the crude is to be shipped to Montana and Utah refineries. The oil has a gravity of 52 degrees, and the well is probably good for about 1000 barrels per day. Ohio Oil Company is laying a six-inch welded-joint pipe line for gas from the field to Bridger where it will tie into the trunk line from Elk Basin to Billings.

Expect Increased Output for Midway Well

Casper Wyo.—Midwest Refining Company is plugging off bottom hole water in its Midway Dome discovery well 12 miles north of Casper. The hole is bottomed at 5215 feet in the second Wall Creek sand, and it is to be plugged back eight feet off bottom, tubed with three-inch seamless tubing, and again put on a 10-day pumping test. It is believed that the production will be materially improved by this work. Well produced about 600 barrels of fluid per day of which 400 barrels was oil.

New Line Request Is Contested

Thermopolis, Wyo.—Wyoming-Montana Pipe Line Company cannot start construction of its oil line from the western Big Horn basin fields, in Wyoming, to refineries in Billings and Laurel, until state utility commissions and the Interstate Commerce Commission have rendered decision on the company's request for certificate of convenience and necessity. Illinois Pipe Line Company, the Burlington Railway Company, Ohio Oil Company, Midwest Refining Company and Continental Oil Company are all protesting the line.

First unit of the line would be laid from the Oregon Basin field in Park County, Wyoming, to Billings to supply crude for refineries there and at Laurel.

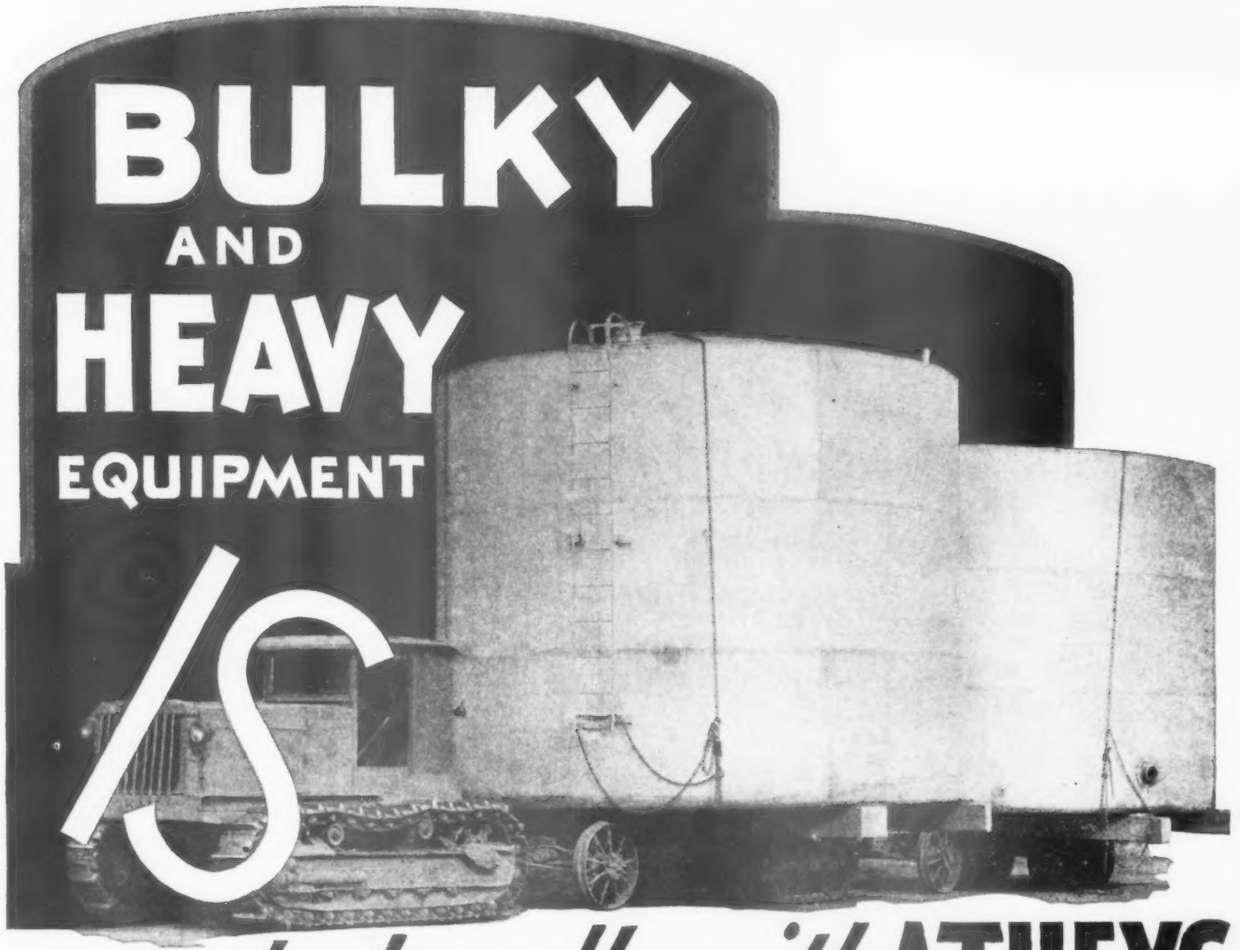
Salt Creek Well to go to Sundance

Casper, Wyo.—An interesting test to the Sundance sand in the heart of the Salt Creek field is a rotary well being drilled for the account of Midwest Refining Company by Olson Drilling Company of Tulsa, the firm which was so successful in drilling Midwest Refining Company's discovery well on Midway Dome, in record time. The well is now below 950 feet. It is on Section 26 on a Midwest Oil Company lease.

Lee Seeking Colorado Gas Franchise

Florence, Colorado.—Arthur K. Lee, well known gas promoter in Wyoming, Colorado and Kansas, is asking for a franchise from this city to supply it with gas to be brought from Kansas, for domestic and industrial consumption. Local coal operators are vigorously opposing him before the Chamber of Commerce and the city council.

BULKY AND HEAVY EQUIPMENT



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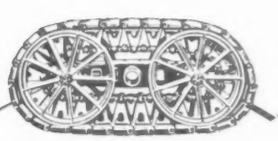

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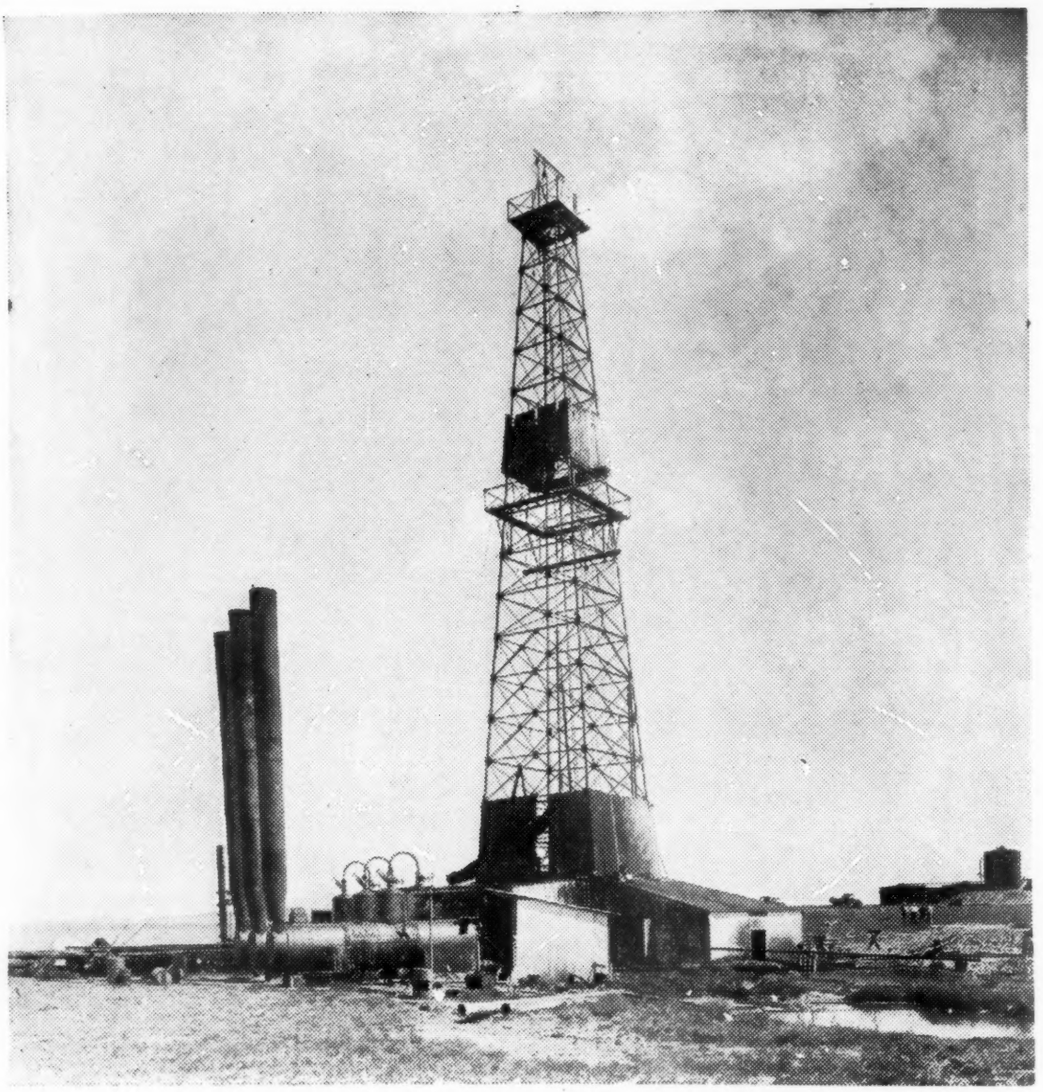
TRUSS WHEEL EQUIPMENT



Deep discovery well on Midway Dome

Midway Dome Discovery Opens Deep Drilling Era

By ROBERT HAZLETT

THE bringing in of a 500-barrel light oil well on Midway Dome, 12 miles north of Casper, is one of the most important discoveries in the Rocky Mountain Region, Wyoming especially, since the discovery of Salt Creek, more than 20 years ago. The discovery is important because it ushers in an era of deeper drilling, because it is in co-operation with the federal government's unit or group operation, and because it will stabilize the refining industry in Central Wyoming and insure a supply of raw material for the refineries at Casper, making good for an indefinite period the investment of the Standard Oil Company (Indiana) and its subsidiaries of more than $150,000,000.

The new well is producing from a total depth of 5215 feet from the second bench of the second Wall Creek sand which showed 47 feet of oil and gas saturation. The location is in NE Section 23-35-79. The structure on which it is located has had four wells drilled on it in the last 10 years but each test stopped short of the big pay. There are scores of other

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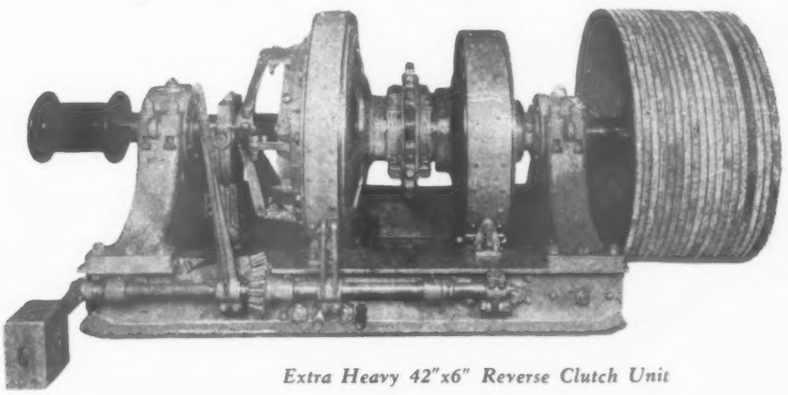

Extra Heavy 42"x6" Reverse Clutch Unit

36"x4½" Heavy-Duty Reverse Clutch

Unit may be driven by any suitable power, it being transmitted through clutch to drawworks by three separate speeds.

Forward clutch is single plate split type, 36" diameter, that may be removed for relining without disturbing shaft or bearings. Drive to drawworks is through split type sprocket which may be furnished in two sizes. Reverse clutch is of oil bath type with steel, heat-treated gears and outside friction brake. Method of applying reverse friction band allows over 90% of friction surface in contact with drum.

Shaft is 4½" alloy steel, heat-treated and ground to very close limits for use with anti-friction bearings.

All castings are nickel alloy steel, designed to assure ample strength for severe service.

Bearings are anti-friction roller type (Timken and American), running in oil.

Entire clutch unit is mounted in three steel box section pedestals hot-riveted and bolted in 10" 56-lb. H beams.

All shifting controls for the three speeds are centrally located at end of unit.

Operation and control of reverse clutch is from driller's position on derrick floor.

Extra Heavy 42"x6" Reverse Clutch Unit

Clutch unit may be driven by any suitable power, it being transmitted to clutch through sprocket, pulley or any other type of power transmission. Entire clutch unit is mounted between two box type steel pedestals, each equipped with double Timken roller bearings. Complete unit is secured to foundation by means of heavy turnbuckles, hooked, in eyes cast integral with bearing caps.

Entire clutch unit is mounted on six-inch shaft of special analysis steel ground to close limits of accuracy for anti-friction bearings.

Forward clutch is single plate split type, 42" diameter, with friction segments both sides. It may be removed for relining without disturbing shaft or bearings.

Clutch housings on which sprocket or pulley is mounted to transmit power is carried on two American roller bearings, which provide ample capacity for shock loads incurred.

Reverse clutch is of oil bath type with steel cut gears and hardened pinions. Housing construction is floating type. Method of applying reverse friction band allows over 90% of friction surface in contact with drum.

All thrust to shaft is taken up in one bearing mounting, eliminating set collars for thrust purposes.

Entire construction is of steel, assuring strength and long life.

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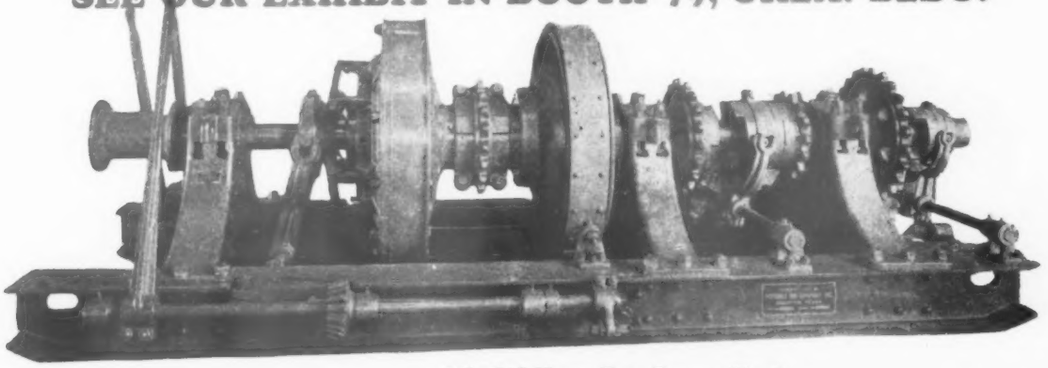

36"x4½" Heavy Duty Reverse Clutch

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D. J. MORAN
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Vice-President, Exchange National Bank

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Vice-President, Prairie Oil and Gas Company

H. F. SINCLAIR
Chairman, Sinclair Consolidated Oil Corporation

C. A. STEELE
Attorney at Law

E. P. HARWELL
Investments

H. G. BARNARD
Investments

F. LEE KENNEDY
Investments

FRANK HASKELL
Oil Producer

KEE R. McKEE
Capitalist

OF AMERICA

It is scarcely necessary to extend again an invitation to oil men to make The Exchange National Bank of Tulsa headquarters during the Exposition. For more than 20 years oil men have gravitated to The Exchange National Bank when occasion brought them to Tulsa. This is only natural, for The Exchange National is an institution conceived and directed for the specific purpose of serving the oil industry.

It has developed facilities of unusual value to the industry. It has established and maintains extensive files of information for its customers. Service is the keystone of its banking policy. It has never discriminated between individuals or institutions. And its directorate is composed of practical oil men, whose chief interest is the health and prosperity of the industry and who are keenly alert to the industry's problems.

The Exchange National Bank has become the banking institution through which most major oil transactions clear - - - because The Exchange National has been courageous and aggressive in serving the oil industry. And in performing this function it has become an international banking force - - - The Oil Bank of America.

Combined Capital, Surplus and Undivided Profits Exceed $10,000,000
Resources Exceed $100,000,000

EXCHANGE BANKS OF TULSA

The Exchange National Bank — Exchange Trust Company — Exchange National Company

D I R E C T O R S

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FRANK W. BRYANT, Vice-President, The Exchange National Bank
C. B PETERS, President, Peters Petroleum Corporation
W. A. BROWNLEE, Executive Vice-President, The Exchange National Bank
T. A. CREEKMORE, President, Summit Drilling Company
E. B. REESER, President, Barnsdall Corporation
H. V. FOSTER, President, Indian Territoy Illuminating Oil Company
THOMAS CHESTNUT, President, Chestnut and Smith Corporation
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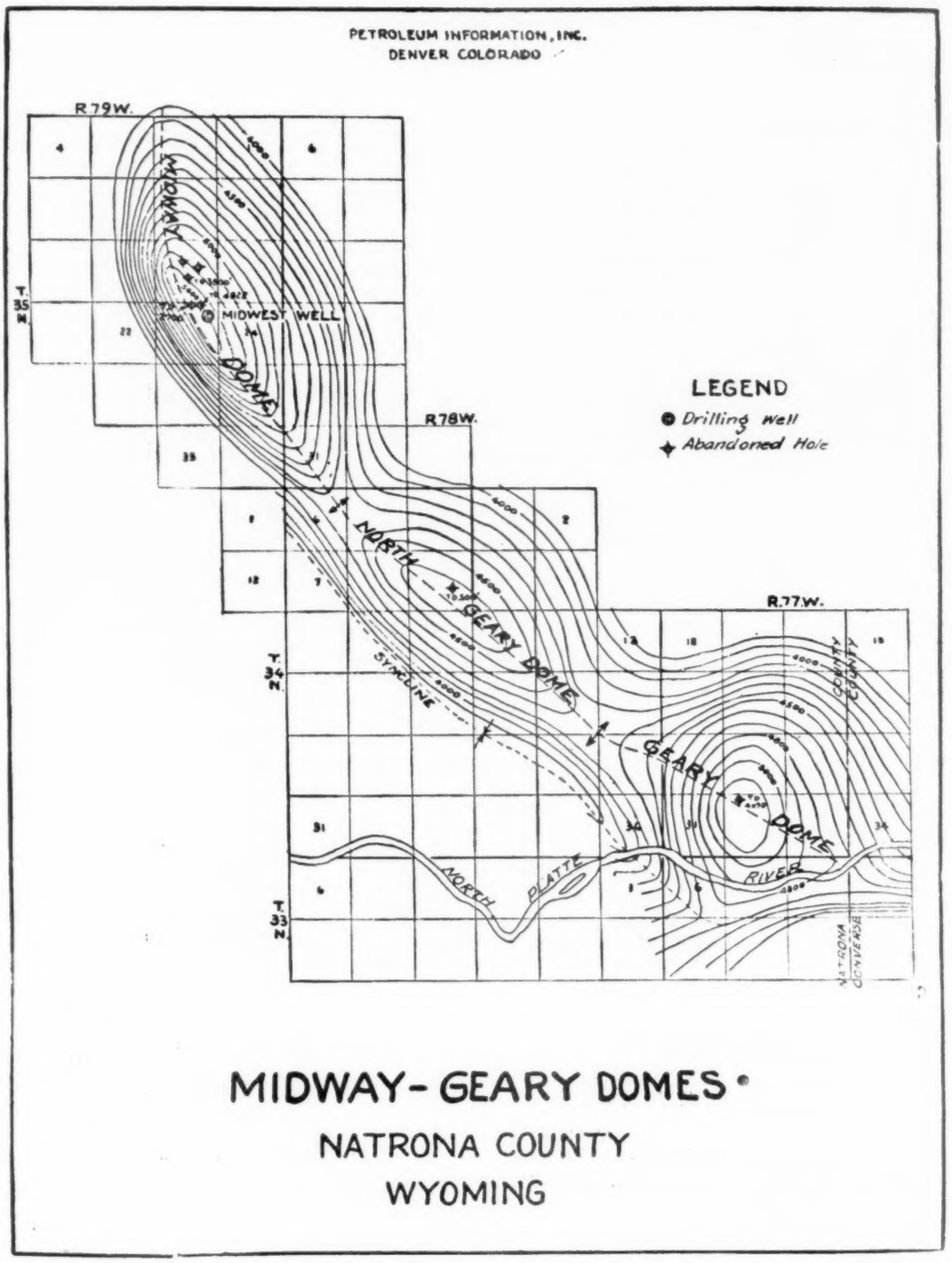
JOHNSON D. HILL, Executive Vice-President, Atlas Life Insurance Company
ROBT. E. ADAMS, Real Estate and Investments
NED HOLMAN, Vice-President, The Exchange National Bank
JOS. R. McGRAW, President, McGraw Oil Company
H. L. STANDEVEN, Executive Vice-President and Trust Officer, Exchange Trust Company
H. C. ASHBY, President, Dickey, Ashby, Fountain Company
W. C. FRANKLIN, Oil and Investments
CHAS. E. BUSH, General Counsel, The Exchange National Bank and Exchange Trust Co.
J. S. PEARCE, Pearce, Porter and Martin

structures in Wyoming and adjoining states with a similar record. Many of these are now being blocked and will be drilled by responsible interests.

There are two more structures on the same anticline with a history similar to Midway Dome. They are controlled by Midwest Refining Company and affiliated interests and tests will be started on both immediately. Owing to co-operation with the federal government, the structures will be developed slowly and the oil taken from the ground only as needed. Much of the land is on the public domain and one of the conditions in the reinstating and the granting of prospectors' permits to drill for oil and gas was that no new wells are to be started within two years from the date of the granting of the permits without the consent of the Department of the Interior.

Depending largely on the production of Salt Creek, which is now down to a pumping proposition of less than 30,000 barrels daily, Standard Oil Company (Indiana) and its subsidiaries have three plants at Casper with a daily throughput of 55,000 barrels, a cracking plant at Glenrock, Wyoming, with a capacity of 3000 barrels daily, a refinery at Greybull,



The three structural "highs," shown on the map above, are located on the same anticline as the Salt Creek, Teapot Dome and Big Muddy oil fields. They have never been developed because of the depth of the oil producing horizons.

TESCO
HIGH TEST
STEEL

Have Your STEEL CASTINGS *made by* STEEL SPECIALISTS

It is not a difficult thing for a manufacturer to get the name of putting a better quality of steel in his product. It means much, especially under present economic conditions, to get such a reputation. By using steel specialists who have a proven record for producing quality products you will soon get the reputation of a quality manufacturer.

Steel Specialists Here

At this plant you get the services of steel specialists. They use for their raw material only the highest grade of structural steel scrap that is low in phosphorous and sulphur.

Analysis Control: A chemist who is a specialist in his line makes a chemical analysis on every run of heat before it is taken from the furnace. The utmost control is given to physical properties as well, test bars being made for tensile and bending tests.

Equipment That Steel Specialists Demand

You will find in this plant the type of equipment that a steel specialist demands for doing quality work. Your patterns are carefully recorded, insured and stored in a modern fire proof vault built to prevent excessive drying out or warping of the patterns.

Here you will see Swindell and Westinghouse furnaces, the former of dual type having a capacity of 70,000 pounds a day. Moulding, jolt, and squeezer machines; high speed bakelite grinders; Pangborn Sand Blast and other facilities for properly cleaning castings; annealing furnace; everything in coordination to produce quality steel castings from 1 pound to 7000 pounds.

Use "Tesco" service for quality steel castings, delivered when promised . . . on time.

TEXAS ELECTRIC STEEL CASTINGS CO.

BRINGHURST AND GILLESPIE STREETS

HOUSTON - TEXAS

"Build With Steel Castings"

Wyoming, with a charging capacity of 8000 barrels daily, and a plant at Laramie with a capacity of 5000 barrels daily. In addition to these plants, the company recently purchased a one-half interest in the Sinclair interests of pipe line from Teapot Dome to Kansas City, 720 miles in length, for $72,500,000. The company already owned the other one-half. All of these investments are now stabilized.

Another feature of the new well is that it was drilled with rotary equipment, a large Emsco outfit, by Olson Drilling Company of Tulsa, Oklahoma. It was drilled in 71 days, making a new record for time in deep drilling in the Rocky Mountain region. It is reported that this company has been given a contract for three additional tests by the same interests. The record made in drilling the Midway well means the general introduction of rotary equipment in the Rocky Mountain region. Rotary drilling has been popular in New Mexico for some time, but it is only recently that it has been meeting with favor in other states in the Rock Mountain region. Besides the saving in time, it means an immense saving in casing. Only two strings of casing were set, the 15½-inch at 215 feet with 105 sacks of cement and the 9⅝-inch at 5145 feet with 400 sacks of cement. The acid bottle was run at 2700 feet, showing a straight hole and again at 5180 feet, when it showed a deviation of only 2½ degrees.

Interests joining in the group development in co-operation with the government are: Midwest Refining Company, in charge of the drilling operations, with 37½ per cent; Midway-Geary Domes Syndicate, H. Leslie Parker and associates, 25 per cent; the old Midwest Oil Company and Wyoming Associated Oil Company, 37½ per cent. All interests contributed to the cost pro rata. On the three structures they have something like 30,000 acres under lease.

That the oil is of a good refinable grade may be seen from the report of a sample recently run through Standard Oil Company's refinery at Casper. It showed 20 per cent gasoline at 382 degrees F., 27.2 per cent gasoline at 490 degrees F., and 39.5 per cent gasoline at 590 degree F. A run of a larger quantity showed gasoline 20 per cent, kerosene 7.2 per cent, gas oil 12 per cent, and fuel oil 60 per cent. The gravity tested 316 A. P. I. with a sulphur content of only .4 per cent.

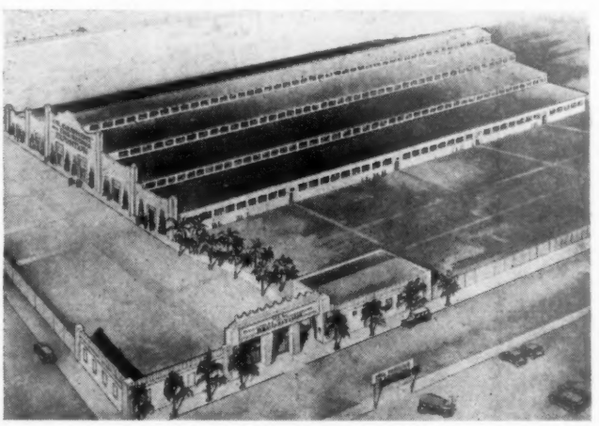
It is not believed there will be very much drilling this year beyond a test on each of the other structures, Middle Dome and Geary Dome, the locations of which may be seen on the accompanying map showing all three structures. It is also quite possible that another test will be drilled on Midway Dome. There are reported to be several other interests with small tracts on each of the structures so that they may start operations and compel the interests in the group operations to drill several more wells to protect lease lines.

The sand in the discovery well on Midway Dome was topped at 5110 feet, it being the first bench of the second Wall Creek. The first 50 feet was a broken sandy shale. At 5160 feet a true sand was encountered. The core barrel was then run to 5187 feet, showing a heavy oil saturation with considable gas. The well was then standardized and drilled to 5215 feet with cable tools. The Shannon sand was topped at 2429 feet with an open flow of gas of 5,000,000 cubic feet. The first Wall Creek sand was entered at 4710 feet and drilled through at 4778 feet. It was dry, having neither oil, gas nor water.

While running the bailer on Tuesday night, August 26, the well started flowing by small heads, and at 7:30 p.m. it made a sensational flow, shooting a solid stream of oil 20 feet above the 124-foot derrick. For the last 10 days it has been on a production test, averaging around 700 barrels daily, of which about 450 barrels has been oil and the balance water. The water is coming from the bottom, as it was drilled about two feet in a water sand. This will be plugged off and the well again put on the pump. It is believed that when completed it will pump around 800 barrels daily.

California Expositions Buildings Ready for Second Meeting

LOS ANGELES.—The new buildings which were erected by Oil Equipment and Engineering Exposition to accommodate both the annual exposition and permanent exhibition of petroleum equipment have recently been completed. These are located at 131 Street and Boulevard, and consist of the main building for the display of all types of tools and machinery, an office building for the management and an arched entrance to the grounds. An outside space of more than three acres provides ample room for derricks and heavier equipment.



Oil Equipment and Engineering Exposition quarters

All of the buildings are of white stucco and are strictly Spanish in architecture. The main building is 400 feet long by 180 feet wide with a floor space of 72,000 square feet—about 1¾ acres. This is divided into 245 booths which face on six main aisles running the entire length of the building and on five cross aisles extending across the width. All the booths are 10 feet in depth with most of them having a 20-foot frontage on the main aisles. Four corner booths are larger with a 30-foot by 10-foot area and 48 are of the smaller size with a 10-foot frontage on the aisle.

Perfect electric lighting at night is provided with an average intensity of 11.5 foot candles by the Holophane system which is used throughout. Provisions have been made for any extra lighting the exhibitors desire for signs, lamps, etc., with plugs on every column and in the booths. The current is 220 volt, single or three phase, and power is available for 75 horsepower in the front of the building and for 150 horsepower in the rear. A total of 250 horsepower is, however, available and this can be increased to meet any requirements.

Water, gas and compressed air facilities are also provided for both inside and outside exhibits. Electric current for the outside spaces can be carried to any point desired.

The office building provides a large outside office and reception room. Behind these are the offices for the personnel of the organization. The trim throughout is Philippine mahogany.

The location of the Oil Equipment and Engineering Exposition is most advantageous. It is near the center of the Los Angeles basin oil fields and is readily accessible from all the fields in the state.

Everything is now ready for the Second Annual Oil Equipment and Engineering Exposition which will be held from March 16 to 22, 1931. Equipment manufacturers who are also displaying their tools and machinery in the permanent exhibition have already set up their exhibits and are taking advantage of the service provided by the exposition management for constant representation and foreign contacts.

PIPE LINE CONTRACTOR

Sectional view of Ottawa, Kansas, to Sedalia, Missouri, 12-inch line of the Cities Service Gas Company

HENRY L. LEMONS, Inc.

THE PHILTOWER

TULSA, » » » » » » OKLAHOMA

COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

CALIFORNIA

Company, Well and Location	Initial Production Bbls.	Depth
ELWOOD—		
Bankline Oil Co., State Permit 89-4	3000	3395
Barnsdall Oil Co., State Permit 88-5	10,000	3455
HUNTINGTON BEACH—		
O'Brien & Weber, Russell 2	130	4875
LONG BEACH—		
R. R. Bush Oil Co., Bell 3	500	7375
George F. Getty, Cobb 18	200	7170
Carter Pet. Co., No. 3	475	7500
General Pet. Corp., Kelly 4	50	7220
Richfield Oil Co., Fry 3	1000	6400
Petroleum Securities Co., Bixby 1	50	6060
MARICOPA FLAT—		
Doyle Pet. Co., Son Crail 9	300	3755
North American Consolidated, Kerckoff 2	100	4420
PLAYA DEL REY (Venice)—		
A. T. Jergins, Capp 1	400	4450
California Northern Corp., Lind Blade 1	300	6360
Joseph M. Devere Baby Joe 1	1700	6360
Star Pet. Co., V-3	550	6405
SANTA FE SPRINGS—		
George F. Getty, Hill 50	400	4401

KANSAS

Company, Well and Location	Initial Production Bbls.	Depth
BARBER COUNTY—		
Barbara Oil Co., Angel 2, c nw ne 23-33-13w	¶1	4466
BUTLER COUNTY—		
Sullivan et al, Newcomb 1 nw c se 6-27-4e	*	3028
COWLEY COUNTY—		
Minnehoma Oil Co., Denton 1 (owdd) se c 4-31-8e	*	2030
ELK COUNTY—		
Flemming et al, Morgan 1, se c 8-29-9e	200	2650
GREENWOOD COUNTY—		
Aladdin Pet. Co. & Phillips Pet. Co., Harris 2, sw ne sw 19-22-11e	75	2067
Harwood Oil Co., Loy 1, sw c ne 20-25-10e	*	2142
RENO COUNTY—		
Palmer, Phillips Pet. Co., et al, Horsch 1, ne c se 14-26-5w	*	4108
United Petroleum Co. et al, Houston 1, nw c 4-22-10w	*	3544
RICE COUNTY—		
Gypsy Oil Co., Koch 1, cwl e½ e½ nw 35-20-9w	*	3546
SEDGWICK COUNTY—		
Fisher & Lauck, Trustee 5, sw se se 19-27-2e	1300	3521
Trustee 4, se sw se 19-27-2e	1200	3248
SUMNER COUNTY—		
Carter Oil Co., Franklin 1, ne c 32-31-1w	110	3680

OKLAHOMA

Company, Well and Location	Initial Production Bbls.	Depth
CADDO COUNTY—		
Mid-Kansas O&G and Ramsey Pet. Lackey 6, ne c nw 11-5-9w	¶8	4867
Magnolia Pet. Co., Caddo-Rowe 8, se sw ne 36-6-10w	790	3352
CREEK COUNTY—		
C. B. Oil Company, Self 3, se c nw 2-17-10e	5	2046
Johnson O&R, Henneha 1, sw c se 11-19-9e	125	1185
GARFIELD COUNTY—		
Royalty Corp. of America, Clark 2, c sw sw 4-21-3w	15	2216
GRADY COUNTY—		
Natural Gas Prod. Corp., Miller 1, cel w½ 25-4n-8w	¶12	1906
GRANT COUNTY—		
Argo Oil Co., Crouch 3, (owdd) nw ne nw 23-27-3w	*	4338
Argo Oil Co., Crouch (owdd) nw c 23-27-3w	*	4249
HUGHES COUNTY—		
Clark and Cowden, Procter 1, c sw ne 11-7-8e	¶44	2943

Tabulation and Comparison on Page 174

Company, Well and Location	Initial Production Bbls.	Depth
KAY COUNTY—		
Continental Oil Co., North 2 "A" nw c ne 12-26-2w (owdd)	59	3715
LINCOLN COUNTY—		
Magnolia Pet. Co., Gillian 3, se c sw 8-14-4e	1430	5155
Magnolia Pet. Co., Henry 1, sw c ne ne 17-14-4e	*	5321
MUSKOGEE COUNTY—		
R. F. Ray et al, Stedham 1, ne c nw se se 8-15-18e	*	980
OKLAHOMA COUNTY—		
I. T. I. O., Phelan Heights 1, ne se ne 15-11-3w	2145	6340
Mid-Kansas O&G, Mollman 4 nw c se 23-11-3w (16 hrs.)	3250	6350
I. T. I. O. et al, Johnson 6, se ne nw 25-11-3w (16 hrs)	2380	6400
Sinclair O&G, Vencl 6, se nw se 31-11-2w	3275	6410
I. T. I. O. et al, Jones 12, nw sw nw 31-11.2w (16 hrs)	¶125-3875	6440
Sudik 10, se c sw 31-11-2w (16 hrs)	15,935	6475
Mt. Vernon Heights 1, ne c 15-11-3w (16 hrs)	900	6450
Hall and Briscoe, Lindsey 2, se ne ne 15-11-3w	7025	6356
I. T. I. O., Magnolia Heights 1, nw ne nw 14-11-3w (16 hrs)	2815	6375
Cromwell-Franklin Oil Company, Trosper Park 16, se nw ne 13-11 3w	1310	6400
Wirt Franklin Pet. Corp., Lowry 9, nw ne nw 12-11-3w (16 hrs)	8750	6405
Cromwell-Franklin Oil Co., Trosper Park 24, ne c sw 12-11-3w	7495	6308
I. T. I. O., Hammer 2, nw c sw nw sw 11-11-3w (16 hrs.)	3290	6310
Corff 5, csl nw sw sw 11-11-3w (16 hrs)	3825	6345
Corff 4, c sw sw sw 11-11-3w (16 hrs)	1465	6338
Coppinger 2, nw ne nw 11-11-3w	830	6335
Wirt Franklin Pet. Corp., Theimer 13, cnl nw sw se 2-11-3w	4098	6230
Theimer 10, c nw nw se 2-11-3w	1745	6270
Wirt Franklin Pet. Corp., Holder 2, se c sw se sw 2-11-3w	2665	6384
Tom Slick Oil Co. and W. H. Atkinson, Miller 1, sw c se sw 2-11-3w	2130	6350
Dannruether 3, ne c sw se nw 2-11-3w (16 hrs.)	2309	6362
Alexander 2, se c sw ne sw 2-11-3w (16 hrs.)	1685	6385
Tom Slick Oil Co., Moore 1, nw c sw ne sw 2-11-3w	1540	6315
Champlin Oil & Ref., Naden 1, sw c se nw 2-11-3w	3945	6433
Tom Slick Oil Co., Gleason 1, cel se ne nw 1-11-3w (16 hrs.)	3300	6298
I. T. I. O., Jones Community 4, se sw sw 1-11-3w (16 hrs.)	1630	6240
Jones 4, se c sw 1-11-3w	2990	6230
OKMULGEE COUNTY—		
A. McInturff, Grayson 1a, ne c 5-13-14e	¶2	1824
OSAGE COUNTY—		
Gillespie & Sons, 18, cel w½ ne, 8-20.12e (owdd)	10	1507
Stanley et al, e, nw c ne, 14-21-8e (owdd)	50	2509
Pueblo Pet. Co., 2, ne c nw nw 14-21-8e	125	2249
Winona Oil Co., 17, ne sw ne 20-29-9e	15	1522
PAWNEE COUNTY—		
Glass et al, McCollum 1, se sw nw 14-20-9e	¶1¼	921
Cy Marshall et al, Lucas 12, se nw sw 6-20-8e	*	2780
PAYNE COUNTY—		
Tidal Oil Co., et al, Edwards 1, c se ne 13-19-1w	*	5210
PITTSBURG COUNTY—		
Central State Light & Power Co., Riddel 1, nw ne nw 15-7-18e	¶22	1860
POTTAWATOMIE COUNTY—		
Deep Rock Oil Corp., Marshall 1, sw c 30-6-4 east	*	3808
SEMINOLE COUNTY—		
Amerada and Dixie, Chase 1, nw ne sw 29-9-6e	3680	4087
Sinclair O&G, Cudjo 5 "B", nw c 35-9-6e	*	3845
Carter Oil Co., Killing 13, c n½ nw 23-9-6e	*	4057
STEPHENS COUNTY—		
Smythe et al, Frederick 1, ne c 31-2n-8w	*	3165
Pace et al, Tony 1, sw c ne nw 27-2s-7w	*	1945

EASTERN STATES

PENNSYLVANIA

Company, Well and Location	Initial Production Bbls.	Depth
BRADFORD FIELD—		
Park & Park, Bingham 12	2	
T. P. Thompson, Jr., Borden 26	2	
Crow Farm Oil Co., Crow 1	4	
Saph & Wright, Bingham 394 tr 1	5	
Mohan & Grant, Bingham 368 tr 12	2	
W. H. Emery, Clark 1	2	
Forest Development Corp., Fee 1	2	
Forest Petroleum Corp., Forest, (2 wells)	4	
Forest Oil Corp., Fee (9 wells)	18	
BUTLER COUNTY—		
Millerstown Bank Co., Hays 11	4	
Bauder & Nicklas, Nicklas 2	2	
CENTER-MIDDLE FIELD—		
S. Streich & Sons, Lot 73 tr 2	2	
Duke & Buck, Duke 5	3	
CLARION-VENANGO COUNTIES—		
F. C. Deemer, Imherten 31	2	
Berlin 4	2	
South Penn Oil Co., Noyes 28	2	
Golden 27	2	
Geo. A. & A. R. Long, Millis 24	7	
Franklin Trust Co., Dana 3	2	
Hopler Exchange Bank & Trust Co., Fisher 32	2	
FAYETTE COUNTY—		
American Natural Gas Co., Moore 1	¶¼	2400
ALLEGHENY COUNTY—		
Chemical Oil & Gas Co., Campbell Hrs. 2	60	1675
WASHINGTON COUNTY—		
Duquense Gas Corp., Dague 1	15	2902
GREENE COUNTY—		
Duquense Gas Corp., Colvis 1	*	3506

NEW YORK

Company, Well and Location	Initial Production Bbls.	Depth
ALLEGANY COUNTY—		
Mary Lippert, Lippert 35	5	
A. H. Ashworth, Ashworth 3	2	
McDivitte & Co., McDivitt 22	2	
Schott Estate, Schott 1	2	

SOUTHEASTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
MORGAN COUNTY—		
Penn-Ohio Gas Co., Chase 4	¶¼	1581
Ohio Fuel Gas Co., Thomas 2	¶¼	1661
W. S. Harris, Gifford 4	3	540
Whitmer & Co., Starrett 2	1	198
WASHINGTON COUNTY—		
Harlan, Schramm & Co., Cummons 14	5	315
Edward Baumgard & Co., Moore Hrs. 4	*	700
MONROE COUNTY—		
Beeghley-Shafer Co., Howiler 4	¶¼	1600
JEFFERSON COUNTY—		
William Graham & Co., Dennis 1	*	1200

ABERCROMBIE

RED BALL CUTTING SERVICE

The name Abercrombie has, for years, implied a money-saving service to the oil industry.

Until the advent of Abercrombie Cutting Tools and Service, side-tracking or complete abandonment were the only remedy for holes plugged by crooked or stuck drill stem or casing. This procedure was costly. It meant the loss of original footage, of valuable equipment, and the extreme difficulty of drilling a crooked hole.

These antiquated methods are no longer necessary. Today you can call an Abercrombie Experienced Cutter, and if it is humanly possible to do so the obstruction will be removed with the minimum time and cost.

Inside *and* Outside Cutting Tools & Service

The Inside Cutting Tool cuts and removes casing, liners and screens; the Outside Cutting Tool will cut and remove drill stem averaging 500 to 600 feet per cut, or as much as it is possible to wash over.

When you have a cutting job call for *Abercrombie Red Ball Service.*

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J. S. Abercrombie .... Lehigh 7459
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Ford de Cordova ..... Phone 584

CENTRAL OHIO

Company, Well and Location	Initial Production Bbls.	Depth
MEDINA COUNTY—		
Ohio Fuel Gas Co., Kerr 1	*	....
Sheehan 1	¶1¼	....
Oko Oil & Gas Co., Essig 41	10	385
LICKING COUNTY—		
Armbruster & Stickler, Stickler 4	2	604
Wehrle Gas Co., Hartman 1	¶1	2952
PERRY COUNTY—		
Ohio Fuel Gas Co., Alwine 1	*	3580
LaRue 1	*	2882
GUERNSEY COUNTY—		
Ohio Fuel Gas Co., Johnson 1	25	3526
LORAIN COUNTY—		
Elyria Steel Corp., Hannaford 1	¶1¼	....
HOCKING COUNTY—		
Ohio Fuel Gas Co., Klinker 1	¶¼	2376
MEIGS COUNTY—		
Great Bend Oil Co., Wolfe 1	¶¼	3660
BELMONT COUNTY—		
M. Fulton & Co., Howell-Dement 3	¶1¼	1396
KNOX COUNTY—		
Upham Gas Co., Henwood 1	*	2536
FAIRFIELD COUNTY—		
Patton & Bishop, Kennedy 2	*	....

NORTHWESTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
HARDIN COUNTY—		
Ohio Fuel Gas Co., Robinson 4	¶¼	1405
Bert Sheldon, Doll 1	¶¼	1377
WOOD COUNTY—		
Linday Airway Oil Co., Acheberger 4	5	1306
SANDUSKY COUNTY—		
W. C. Richards & Co., Leaser 1	¶½	1380

INDIANA

Company, Well and Location	Initial Production Bbls.	Depth
KNOX COUNTY—		
Gardner Petroleum Co., Unknown 1	2	....
Shell Petroleum Corp., Schultz 1	*	....
PIKE COUNTY—		
H. H. Risher, Thomas 1	¶¼	....
DAVIESS COUNTY—		
Norris, Patterson & Co., Ageton 1	¶½	672
WARRICK COUNTY—		
Indiana Southern Gas Utilities Co., Schumacher 1	*	....
FLOYD COUNTY—		
Wood Oil Co., Colley 1	*	....

ILLINOIS

Company, Well and Location	Initial Production Bbls.	Depth
ST. CLAIR COUNTY—		
The Ohio Oil Co., Shondy 2	45	662

KENTUCKY

Company, Well and Location	Initial Production Bbls.	Depth
McLEAN COUNTY—		
Olean Petroleum Co., Harris 1	5	....
The Ohio Oil Co., McManama 1	5	1120
J. C. Ellis & Co., Scott 1	*	1500
Bailey 1	5	1173
G. Scott 1	*	1555
OHIO COUNTY—		
J. A. Ford & Co., Haynes 1	*	700
Mecca Oil Co., Harrison 1	*	600
DAVIESS COUNTY—		
Louisville Gas & Electric Co., Patterson 1	*	1750
Prairie Oil & Gas Co., Pate 1	*	1570
HENDERSON COUNTY—		
Niagara Oil Corp., King 1	¶½	....
BRECKENRIDGE COUNTY—		
John Ogden & Co., Howard 1	*	475

MICHIGAN

Company, Well and Location	Initial Production Bbls.	Depth
PRESQUE ISLE COUNTY—		
Claud F. Palmer, Lobdell-Emery 1	*	1400
MIDLAND COUNTY—		
The Pure Oil Co., Scott 1	325	3556
MUSKEGON COUNTY—		
Lima Oil Corp., Haight 10	40	1875
Jersey Oil Co., Muskegon Brewery lot 1	*	2907
ISABELLA COUNTY—		
G-Lee-P. Oil Co., Grubb 4	300	3590
Otsego Oil Co., Lee 1	140	3550
Ohio Producing & Refg. Co., Wezenski 1	200	....
George Talbot, Carmichael 1	35	....
New York Petroleum Royalty Co., Marthey 2	25	....
Mellon-Pollock Oil Co., House 1	25	....
E. C. Fiedler, Roberts 1	25	....
Chartiers Oil Co., Wesche 1	*	....
Sias Oil Development Co., DePool 1	*	....

ARKANSAS

Company, Well and Location	Initial Production Bbls.	Depth
UNION COUNTY (Smackover)—		
Ark. Fuel Oil Co., Ferguson 5, 6-16-15	10	2393
Standard Oil Co. of La., Hardy-Murphy 24, 4-16-15	25	2316

LOUISIANA

NORTH LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
BOSSIER PARISH—		
Texas Co., H. Rose 2, 31-23-11	20	3176
CADDO PARISH—		
J. W. Burton, Burton 3, 7-20-15	10	1585
OUACHITA PARISH—		
Jordan Drilling Co., Parker 1, 41-18-4e	¶4	2228
RICHLAND PARISH—		
Richland Prod. Co., Duff 1, 15-16-6e.	¶4½	2450
Louisiana G&F Co., Etheridge 1, 28-17-6e	¶36¼	2450
Northern La. Nat. Gas Co., McCoy B-5, 17-16-6e	¶39	2450

SOUTH LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
BAYOU CHOCTAU—		
Tex. Gulf Sulphur Co., Wilbert 3, 53-9s-11e	*	650
CARENCO—		
Pure, J. Manmotin 1, 33-8s-4e, 5 mi n Lafayette	*	6750
EAST HACKBERRY—		
Yount-Lee, State Kelso Bayou 30	1600	3925
HACKBERRY—		
Federal Pet. Co., Hebert 1, 33-12s-10w, shale	*	7835

TEXAS

SOUTH TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
BEXAR COUNTY—		
Eckert & Son, John Brehn 1	10	700
Morosso & Collins, Hamberdale 3	12	680
Penn-Tex. Oil Co., Sandemer 4	10	702
DUVAL COUNTY—		
Humble Oil & Ref. Co., Koehler 49	15	1756
S. R. C. Company & Vacuum Oil Co. Duval Ranch 1	400	1731
DARST CREEK—		
Gulf Prod. Co., Thomas Dix 3	1200	2545
Thomas Dix 4	1200	2531
Posey-Baker 6	1680	2595
Thomas Dix 5	1400	2525
Molear 3	300	2620
Posey-Baker 7	600	2582
Humble Oil & Ref. Co., Denman 16-A	800	2565
Louisiana Oil Ref. Co., Co. Dix 6	475	2571
Magnolia Pet. Co. Huff 1	100	2237
Sun Oil Co., Knoblock 9	480	2545
Knoblock 10	150	2540
Knoblock 11	600	2534
Texas Co., Knoblock 9-B	2200	2602
Posey-Baker 6	1700	2534
Henry Willis 6	2085	2600
CHAPMAN FIELD—		
E. L. Chapman, J. C. Abbott 7-B	480	....
Patton Prod. Co., Abbott 1	600	1978
ZAPATA COUNTY—		
Allied Gas Co., Trevino 8-B	75	1257
Trevino 17-A	75	1230
Nordan, Morris et al, Bustamente 2-C	¶25	1364
W. R. Shankel, Trevino 8	50	1279
Allied Gas and Allen, and Morris, Guitterrez 7	75	1252
Guitterrez 8	75	1255
O. W. Killam, Cuellar 29	75	1574

TEXAS GULF COAST

Company, Well and Location	Initial Production Bbls.	Depth
BARBERS HILL—		
Sun Oil Co., Wilburn Fee 9	400	5167
Sinclair, McKinney Fee 3	150	5275
Mills Bennett, H. E. Fisher 1	1050	6500
DANBURY—		
Shell, Haury 1, se flank	*	1600
HIGH ISLAND—		
Marrs McLean, Cade 18	*	4175
HUMBLE—		
Jno. Deering, Graef 1	100	4475
PIERCE JUNCTION—		
Saxet Oil Co., Herman Est. 8	300	4955
STRATTON RIDGE—		
Rycade & Amerada, Seaburn 1	*	2750

TEXAS PANHANDLE

Company, Well and Location	Initial Production Bbls.	Depth
GRAY COUNTY—		
Champlin Ref. Co., McLaughlin 5	50	2925
Cockrell-McIlroy Oil Co., Baer 1	125	3291
Graham et al (Taconian Oil Co.) Sullivan 1	¶59-6500	2990
Gulf Prod. Co., J. M. Saunders 6-A	240	3022
Wild et al, Harrah 1	155	3200
HUTCHINSON COUNTY—		
Plains Holding Corp. & Hagy, Johnson 1-B	¶23½	2705
MOORE COUNTY—		
Shamrock O&G Co., Brumley 1	300	3467
WHEELER COUNTY—		
Murchison-Fain-McGaha, Hanes 1	*	1852

NORTH TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
ARCHER COUNTY—		
John Brownlee et al, Bell 1	*	1197
Flowers & Barkley, Brazina 1	*	1485
H. H. Fraser et al, Coleman 1	*	1401
H. P. Key et al, Porter 1	*	1502
A. P. Nicholson et al, Terrell 1	*	960
Paul Trahan et al, Netherton 1	*	1605
COOKE COUNTY—		
Deep Rock Oil Corp. et al, Bugg 1	3	1369
JACK COUNTY—		
Atlantic Oil Prod. Co., Thompson 1	*	910
MONTAGUE COUNTY—		
Bridwell Oil Co., Salmon 1-E	*	1936
Roy I. Carter & Rycade Oil Corp., Cunningham 14	25	912
THROCKMORTON COUNTY—		
C. F. Corzelius & Gulf Prod. Co., Irwin 1	*	1502
WICHITA COUNTY—		
Lambert & Trout, Overby 7	30	1249
Turman Oil Co., Waggoner 20	25	1731
WILBARGER COUNTY—		
Patterson et al, Waggoner 1	*	1450
YOUNG COUNTY—		
Akin & Rayzor, Winkler 2	*	1114
H. B. Alexander et al, Carida 1	*	660
Arkansas Fuel Oil Co., Jeffery 1-C	*	956
Cunningham et al, Kisinger 5	65	2525
Bob Elmore et al, Andrews 1	*	955
F. H. Gose et al, Wilson-Allison 1	*	1300
Jack Harris et al, Bullock 1	*	975
Lloyd Oil Corp., Furr 1	*	850
Maer-Hamilton et al, Bullock 1	*	908
A. H. Parks et al, Johnson 1	*	640
Petroleum Producers Co., Graham 2	200	698
Thompson et al, Daws 1	*	1002
Willis & Terrell, Belknap 2	*	702
Wootten & Reed, McBrayer 3	*	735
Young Bros. & Alexander, Remington 8	50	706

CENTRAL WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
BROWN COUNTY—		
Eppenauer Drlg. Co., Shields 1	5	2111
E. L. Smith Oil Co.-Gulf Prod. Co., Carmichael 1	¶6¾	1438
CALLAHAN COUNTY—		
Star Drilling Co., Finley 2-B	¶½-2	903
F. M. Taylor et al, Buggerstaff 2	*	355
COLEMAN COUNTY—		
Lloyd Oil Corp., Bartholomew 15	130	1456
Yingling et al, Gates 1	*	2915
EASTLAND COUNTY—		
Grove et al, Dunham 1	15	1200
PALO PINTO COUNTY—		
Christie Bros. et al, Allen-Richie 2	*	1312
SHACKELFORD COUNTY—		
Coleman & Stiles, Mitchell 1	*	2185
Howsley et al, Casey 1	10	857
Meridan Oil Co., Reynolds 1	20	901
STEPHENS COUNTY—		
Lone Star Gas Co., Elliott 2	¶1-255	3358

WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
CRANE COUNTY—		
Gulf Prod. Co., McElroy 3-B	140	3011
LOVING COUNTY—		
The California Co., Reagan-McIlvain 2	400	4228
Joe Rush et al, Wheat 1	560	4306
PECOS COUNTY—		
Cardinal Oil Co., Tippett-Sun 2	*	445
WARD COUNTY—		
Atlantic Oil Prod. Co.-Penn Oil Co., Bennett 1-D	25	2607
Gulf Prod. Co., G. W. O'Brien 13	2665	2600
G. W. O'Brien 14	195	2670
Sid Richardson et al, O'Brien 5	330	2795

Steel Derricks, Rig Irons, Bull Wheels, Band Wheels, Crown Blocks, Tug Wheels, Sand Reels, Steel Tankage, Floating Roofs, Tank Fittings, Refinery Equipment, Steel Plate Construction.

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Central Bldg., Wichita, Kansas

WILDCATS FROM ALL SECTIONS

CENTRAL EAST TEXAS

DELTA COUNTY—

C. A. Everts et al, J. A. Smith 1.. * 3260

HENDERSON COUNTY—

E. L. Chapman et al, Cade 1 ..... * 3189

VAN ZANDT COUNTY—

Texas Chief Oil & Roy. Co., J. P. Porter 1 ..... * 2464

BOWIE COUNTY—Joe Burham et al's G. W. Burnett 1, M. H. Janes sur, dr 960 ft. Lee Timberlake et al's J. Tidwell 1, Jas. Eskell sur elev 286 ft, top Pecan chalk 1229 ft, sd 3008 ft.

CAMP COUNTY—McDonald Bros.-Atlantic Prod. Co. et al's B. D. Tillery 1, J. H. Murphy 1, sp and sd.

CASS COUNTY—Phillips Pet. Co.'s J. R. Olds 1, materials.

CHEROKEE COUNTY—Berry & Chastain's Jeff Jones 1, materials. H. J. Cox et al's Farris (Geo. Davis) 1, P. Bean sur, dr 300 ft.

DELTA COUNTY—Delta County Dev. Co.'s M. E. Hays 1, J. B. Anderson sur, elev 503 ft, Pecan chalk 421-481 ft, dr 3080 ft.

ELLIS COUNTY—C. G. Foster & S. C. Richardson's Moise-Cerf 1, LaPena sur, elev 440 ft, sd for water 2187 ft. E. M. Rogers et al's J. L. Winn 1, O. Wheeler sur, dr 740 ft. The Triangle Corp.'s W. B. Hale 1, B. Smith sur, Austin chalk 78 to 437 ft, Woodbine sand 836 to 1120 ft, top Trinity 2740 ft, cem cas 3031 ft.

FANNIN COUNTY—Ed. V. Parsons et al's Morgan 1, J. E. English sur, elev 668 ft, lowering cas 3423 ft.

FRANKLIN COUNTY — Harper-Byers et al's A. J. Laws 1, D. G. Rogers sur, sp and sd.

HENDERSON COUNTY—H. B. Ashburn et al's T. E. Terry 1, Arron York sur, elev 397 ft, coring 2835 ft. L. G. Bradstreet & Co.'s J. J. Shaughnessy 1, John Isard sur, elev 548 ft, Pecan chalk 2560-2734 ft, hard Austin chalk 3595-3843 ft, top Woodbine sand 4385 ft, dr wet sand 4570 ft. Geo. L. Pace et al's S. Anthony 1, J. M. Betram sur, elev 410 ft, Pecan chalk 2252-2361 ft, dr 2830 ft. Texas State Oil Co.'s T. H. Skinner (25-ac) 1, J. Henshaw sur, sp and sd.

HOPKINS COUNTY — Okla-Tex Royalty Corp.'s Hamilton-Mollie Hess 1, Jas. Gahagan sur, spd and sd.

HUNT COUNTY — Mrs. Mamie S. Hammonds-F. B. Branson-C. A. Kelsey's J. S. West 1, Jas. Rhodes sur, elev 505 ft, Pecan chalk 1310-1365 ft, Austin chalk 1415-1815 ft, sd 3250 ft. R. J. Worthington Oil & Dev. Co.'s W. H. Adams 1, lcn.

KAUFMAN COUNTY—Otto R. Winter & Coastline Explorations, Inc.'s, John Barrow 1, R. A. Terrell sur, elev 538 ft, Austin chalk 2283-2667 ft, top Woodbine 3194 ft, sd acct title work, td 3211 ft.

LIMESTONE COUNTY—Haley-Heemann's Wilkes 1, J. Breeding sur, elev 421 ft, sd 1444 ft.

NAVARRO COUNTY—Young et al's J. H. Farmer 1, Robt. Finley sur, top Austin chalk 787 ft, sd 960 ft. L. G. Priest et al's Henry Albritton 1, H&TC Ry. sur, lcn.

RAINS COUNTY—Everett & Morrison's F. Franklin 1, J. Christian sur, sp and sd.

RED RIVER COUNTY—E. L. Chapman et al's Morris-Guest 1, S. Lakin sur, sd 1505 ft.

RUSK COUNTY—Benedum-Trees Oil Co. & Clem S. Clark's Mrs. M. R. McCafflin 1, E. Blackburn sur, elev 406 ft, Pecan chalk 2190-2487 ft, set cas to test trace oil 2715 ft. C. M. Joiner et al's Mrs. Daisy Bradford 3, Juan Ximinez sur, elev 390 ft, Pecan chalk 2590-2744 ft, base Austin chalk 3490 ft, made flow live oil Sept. 5 via drill stem 3536-92 ft, sd to cem 6⅝ cas 3486 ft. Moss et al's Mathews 1, top Pecan chalk 2296 ft, sd 2330 ft. C. Rosenfield et al's E. L. Pinkston 1, Marie de Pena sur, dk.

SMITH COUNTY—Owen-Sloan Oil Co. & R. H. Davis' J. H. Starnes 1, J. W. Allen sur, elev 417 ft, top Pecan chalk 2738 ft, sd 3002 ft. T. B. Slick Est. & Winona Oil Co.'s M. Freeman 1, A. J. Lagrone sur, elev 498 ft, top Pecan chalk 2955 ft, sd 3538 ft. Sun Oil Co.'s Oscar McGehee 1, Thomas Quevedo sur, elev 428 ft, dr 730 ft. Thayer & Rogers' Dr. Willingham 1, Jacob Herrin sur, lcn.

VAN ZANDT COUNTY—Bethel Oil Co.'s P. Smith 1, M. Neal sur, elev 435 ft, Pecan chalk 2555-2790 ft, Austin chalk 3865-4009 ft, fsh 4603 ft. D. R. Byrd et al's C. H. Morris 1, P. Piles sur, elev 570 ft, dr 2780 ft. E. L. Chapman et al's Chas. T. Wolverton 1, Wm. James sur, elev 515 ft, Pecan chalk 2810-3106 ft, base Austin chalk 3409 ft, coring 3805 ft; Wolverton 2, sd 510 ft. L. G. Priest et al's Blanche Blewett 1, E. Porter sur, elev 610 ft, Pecan chalk 2795-2957 ft, coring 3020 ft. Vanco Oil Co.'s Wages 1, dk.

VAN FIELD—Geo. Anderson-E. E. Fogelson et al's Mrs. W. A. York (strip lse.) 1, sd 1800 ft. Broderick & Calvert's M. F. Shirley (2.07-ac strip) 2, lcn. E. L. Chapman et al's Clark 1, dk. Cranfill-Germany, Inc.'s, L. L. Swain (4½-ac strip) sp and sd by injunction. Hartt Pet. Co.'s Swain (2.3-ac strip) 1, dk. Helms et al's C. E. Bogue 1, Marshall University sur, elev 461 ft, dr 1670 ft. Humble O&R Co.'s Blake 4, rig; Mrs. E. E. Corrall 2, rig; L. A. Dowdle 1, top Austin chalk 2565 ft, cem cas on top sand 2942 ft, swabbed 8½ bbls oil five hours at 2967 ft, coring 2983 ft. Imperator Oil Corp. et al's Carter (strip) 2, dk. Imperator Oil Corp. & Paul Vitek's G. J. Luther (3.01-ac strip) 1, elev 447 ft, top Pecan chalk 1653 ft, top Austin chalk 2630 ft, showing oil, dr 2855 ft. Roy Jenkins et al's M. E. Davis 1, cem cas 2907 ft, sut down to pump with 500 ft oih at 2917-3030 ft. Kraft-Kelsey & Pure Oil Co.'s Wylie Enas (strip) 1, J. Prado sur, co 1390 ft. Pure Oil Co.'s A. D. Clark (4-ac) 1, cem cas 2758 ft; A. D. Clark (17-ac) 1, top Pecan chalk 1644 ft, won't flow, swabbing and co 2912 ft; W. H. Cook 1, dr 1100 ft; J. F. Crim (40-ac) 1, mudding off gas between 10 and 7-inch cas, td 2981 ft; Crim 2, dr 930 ft; V. T. Davis 1, dk; A. G. Maxfield 2, dk; D. O. Mayo 1, lcn; P. E. Neils 1, top Austin chalk 2490 ft, dr 2540 ft; F. Smith 1, cem cas 312 ft; J. C. Stewart (44-ac) 1, dk; O. L. Swain (40-ac) 2, rig; Swain (43.8-ac) 1, dr 1788 ft; J. T. Taylor 1, cem cas 2585 ft; J. T. Thompson 9, dr 1955 ft; A. R. Tunnell 3, dr chalk 1799 ft; Tunnell 4, cem cas 2735 ft; R. L. Wells 5, dk; Wells 11, dr 685 ft; W. A. York 1, completing 2914 ft; York 2, dk. Shell Pet. Corp.'s E. F. Fowler 7, cem cas 2441 ft; J. T. Taylor 2 and 3, rigs. Sun Oil Co.'s I. W. Thompson 3, dk. Ventex Oil Co. (Paul Vitek's) L. A. Smith (2-ac strip) 1, wooden dk.

WOOD COUNTY—Big Indian Oil & Dev. Co. & Tidal Oil Co.'s R. J. King 1, Barnhill sur, elev 525 ft, Pecan chalk 2636-2875 ft, sd in pink shale 4706 ft. Wood County Dev. Co.'s Ricks 1, Daniel Fuller sur, sd 1000 ft.

ABBREVIATIONS

NOTE—The following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet of gas; abn—abandoned; bbls—barrels; b.s.—basic sediment; cas—casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in.—inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd—shut down.. sdtr—sidetracking; sp—spudding; sr — straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wosr—waiting on-standard rig.

Completions

(Continued from page 216)

CENTRAL EAST TEXAS

VAN ZANDT COUNTY—

Broderick & Calvert, Shirley (2.07-ac strip)	15,000	2932
Pure Oil Co., B. E. Crim (40-ac) 1	400	2925
A. R. Humphreys 1	2500	2947
J. R. Petty 1	5000	2960
H. P. Tunnell (131½-ac) 1	3500	2957
Shell Pet. Corp., J. T. Taylor 1	5000	2950

NEW MEXICO

LEA COUNTY—

Amerada Pet. Corp., McKinley 4	¶4½-7500	4198
State 2-A	¶36-2640	4160
The California Co., State 2	¶15-18,790	4171
Continental Oil Co., State 1-A	¶11-16,800	4178
Empire Gas & Fuel Co., Hardin 2	5700	4210
Gypsy Oil Co., Grimes 4	¶11-8165	4153
Humble O&R Co., Bowers 8	¶3¼-2980	4215
Bowers 9	¶12-16,400	4220
Ohio Oil Co., State 2 (Sec. 30)	¶3-5500	4206
Ohio-Phillips Pet. Co., State 4	¶20-19,175	4170
Prairie O&G Co., Grimes 1	¶10¾-8850	4191
Shell Pet. Corp., W. D. Grimes 1	¶59-6155	4175
W. D. Grimes 2	18,600	4200
The Texas Co., State 2-C	¶7-9930	4210
Tidal Oil Co., Coleman 1	615	4147

EDDY COUNTY—

Flynn-Welsh-Yates, Stevens 1	¶1½-60	3442

Initial Production

Company, Well and Location	Bbls.	Depth
MENARD COUNTY—		
W. C. Barnett et al, Callan 3	*	1254
REEVES COUNTY—		
Salsbury & Gregory, Bell 1	*	370
SCHLEICHER COUNTY—		
Phillips Pet. Co. et al, Whitten 1	*	6880
SCURRY COUNTY—		
Camp Springs O&R Co. et al, Quinn 1-A	*	4373
TAYLOR COUNTY—		
W. G. Clark & Humble O&R Co., Kendall 1	*	2543
Eastland Oil Co. et al, Hunter 1	60	2407

ANDREWS COUNTY — Fuhrman Pet. Corp.'s W. T. Ford 1, elev 3186 ft, cased off 30 mil ft gas at 4062-68 ft, testing 3500 ft oil in hole at 4290-4340 ft. Maryin-Maer & Kell's Meadors 1, elev 3288 ft, top salt 1705 ft, sd 4501 ft.

BREWSTER COUNTY—Trans-Pecos O&G Co.'s Jones 1, elev 3073 ft, sd 2510 ft.

COKE COUNTY—Arkansas Fuel Oil Co. & Dixie Oil Co.'s Stepp 1, sd 4565 ft.

CONCHO COUNTY—W. C. Beesley et al's Waring 1, sp and sd. A. W. Turner et al's Brosig 1, sd 1520 ft.

CRANE COUNTY—Cranfill Bros. Oil Co.-Atlantic Oil Prod. Co.'s J. T. Muir 1, elev 2499 ft, top salt 485 ft, dr 1780 ft. Cranfill Bros. & Gulf Prod. Co.'s Tubbs 1, elev 2526 ft, top salt 505 ft, top white lime 2445 ft, set 7-inch cas 4040 ft, co 4128 ft. C. C. Duffey et al's Cowden 1-C, top salt 560 ft, dr 3790 ft.

CROCKETT COUNTY—Magnolia Pet. Co.'s A. C. Hoover 2, elev 2521 ft, top salt 865 ft, swabbing 3 bbls 31 deg. oil at 2038-50 ft, td 2056 ft; Hoover 3, machine. McMan O&G Co.-Amerada Pet. Corp.'s Powell 2, elev 2651 ft, top salt 1005 ft, ur 2415 ft.

CULBERSON COUNTY — Grisham-Hunter Corp.'s W. D. Garren 2, elev 4325 ft, top Delaware 1273 ft, sd hfw 1520 ft. W. L. Kornrumpf et al's Garren 1, sd 985 ft.

ECTOR COUNTY—H. F. Wurtz et al's Ibbetson 1, elev 2840 ft, top salt 865 ft, sidetracking hole at 1000 ft, td 2375 ft.

EDWARDS COUNTY—Phillips Pet. Co.'s Holman 2, dr 5705 ft.

FISHER COUNTY—Condor Pet. Co.'s Wilson 1, rig. Cranfill-Reynolds Co.'s Flannigan 2, sd 3130 ft; Willingham 3, dr 2020 ft. The Texas Co.'s Dan Stephens 2-A, rig; Teagarden 1-B, rig.

GLASSCOCK COUNTY—Ed. Timberlake et al's Meek 1, sd 2965 ft. World Oil Co.'s McDowell 3-C, sd 660 ft.

TOM GREEN COUNTY—Belding & Dutton's Norsworthy 1, dr 765 ft. Mintex Oil

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Co.'s Campbell 1, sd 1704 ft. Phillips Pet. Co. et al's Jennings-Gulden 1, elev 2016 ft, ur 3600 ft.

HOWARD COUNTY — Greene Prod. Co.-Getty Pet. Corp.'s Denman 1, elev 2580 ft, top lime 1700 ft, dr 2305 ft; Snyder 1, dr 1650 ft.

HUDSPETH COUNTY—Geo. R. Theison et al's University 1, spd and sd.

IRION COUNTY—Burton et al's Nutt 1, lcn. J. E. Bristow et al's Nutt 1, elev 2344 ft, pumping with hfo at 1448-65 ft. Central Oil Co.'s H. Horney 2, sp and sd. Carl Cromwell et al's Tankersley 1, elev 2520 ft, sd 1712 ft. Straughan & Texannati Oil Co.'s Nutt 4, lcn; Tankersley 1, ur 900 ft. F. E. Webb et al's Nutt 1, lcn; W. H. Williams 1, spd and sd. P. H. Williams et al's Ashe 1, sd 8900 ft; Noelke 1, show oil 1655-65 ft, dr 1745 ft.

JONES COUNTY—McBest et al's Roberts 1, dr 515 ft. C. R. Pope et al's Swann 1, dr 1110 ft.

LOVING COUNTY — Arkansas Fuel Oil Co.'s W. W. Dean 1, set cas 675 ft. The California Co.'s Reagan 3, elev 2687 ft, top salt 726 ft, cem 8⅝ cas 3898 ft; Reagan 4, elev 2738 ft, top salt 790 ft, dr dry hole 4250 ft; Reagan 5, rig. A. R. Eppenauer Drlg. Co. et al's Allen 1-A, dr 655 ft. Geo. Henshaw et al's Reagan-McIlvain 1, elev 2689 ft, top salt 745 ft, top Delaware 4232 ft, flow rate 250 bbls oil daily natural at 4248-54 ft. Lewis & Slagel Drlg. Co.'s L. D. Cartwright 1, lcn. Miller-Burge & Healy's Chapman 1, top salt 750 ft, sd 3160 ft. Phillips Pet. Co. (was Independent O&G Co.'s) Wheat 2, rig. Lee O. White et al's Russell 1, top salt 750 ft, sd 4005 ft.

MENARD COUNTY—W. C. Barnett et al's Callan 4, machine. L. G. Priest et al's J. P. Sorrells 1, elev 2279 ft, sd 2490 ft.

MIDLAND COUNTY—Kirwin et al's Mathena 1, rig.

MITCHELL COUNTY — Lewis & Slagel Drlg. Co.'s A. M. Bell 1, materials.

PECOS COUNTY—Barnes et al's Sanford 1, elev 2518 ft, co with hfo at 1350-80 ft. E. L. Chapman et al's Streety 1, elev 2653 ft, dr by tools 2210 ft. Crosby Prod. & Roy. Corp.'s Cordova 1, dr 2595 ft. Curry & Eakin's Pecos Valley 1, elev 2440 ft, top salt 1200 ft, flowed 45 bbls oil in 3 days at 1577-1629 ft. C. L. Dittman et al's H. J. Eaton 1, dr 385 ft; Eaton 2, lcn; Eaton (Sec. 37) 1, lcn; J. S. Jackson 1, lcn. Humble O&R Co.'s H. L. Kokernot 1, elev 3593 ft, top salt 2713 ft, top black lime 3981 ft, sd 5035 ft; Mrs. C. L. Thompson 1-B, elev 3061 ft, making 100,000 bbls sulphur water, dr 1585 ft. Lockhart & Co.'s University 1, dr 595 ft. Magnolia Pet. Co.'s Byrne 1, co with 250 ft oih at 1349-85 ft. Messenger et al's Butz 1, sd 740 ft; Byrne 2, sd 1367 ft. J. R. Miller et al's Bennett 1, sd 1700 ft. J. D. O'Mara et al's Bennett 1, sd 1230 ft. O. J. Perren et al's Eaton 2, elev 2437 ft, est. 5 mil ft gas 1760 ft, dr 1765 ft. Pure Oil Co.'s Harrison 1, elev 3495 ft, show live oil in anhydrite-lime 2258-75 ft, dr 2321 ft. Rio Grande Oil Co.'s Webb 1, dr 990 ft. Riser & White's W. D. Riser 1, sd 405 ft. Sides & Cloyd's Blackstone-Slaughter 1, dr 2335 ft. N. E. Tanner & Carl Cromwell's University 1, sd 2154 ft. Williams & Moran's R. G. Heiner-State 1, dr 245 ft.

PRESIDIO COUNTY—Brite Prod. Co. L. C. Brite 4, elev 4536 ft, sd red shale 3129 ft.

REAGAN COUNTY — Big Lake Oil Co.'s University 179, lowering 9-inch cas 2900 ft, td 4003 ft; University 4-C, making eqpt. repairs 8665 ft; University 5-C, lost rotary returns 4615 ft Group One Oil Corp. (Conoco's) University 4-B, lost rotary returns 3661 ft.

REEVES COUNTY—Biggs & Smith's Cherokee 1, sp and sd. The California Co.'s Kloh 1, elev 2798 ft, fsh bailer, td 3616 ft. May & Milton's Ellis 1, ur 1360 ft. Lee O. White et al's Hershensen 1, elev 3244 ft, top salt 2670 ft, sd 4415 ft.

RUNNELS COUNTY — Boyce & Lamar's Lange 1, elev 1844 ft, sd 2643 ft. Chas. Dutton et al's G. W. Dean 1, sd 1330 ft.

SCHLEICHER COUNTY—Delmar Oil Co.'s O'Harrow 1, elev 2421 ft, co 5472 ft. Eastland Oil Co. Unit Plan's Tisdale 1, lcn. Munger-Wilson Oil Co.'s Page 1, elev 2270 ft, sd 5053 ft. Paul Teas & Walter Gant's Allison 1, sd 3837 ft. J. D. Wesner et al's R. E. Ratliff 1, sd 750 ft.

SCURRY COUNTY — Camp Springs O&R Co.'s Strayhorn 1, dr 780 ft. D. H. Byrd & H. A. Harmon's Murphy 1, elev 2298 ft, top salt 775 ft, top lime 1507 ft, co after second shot, td 4970 ft. Mid-Kansas O&G Co. & Vacuum Oil Co.'s Peckham 1, elev 2155 ft, dr 4010 ft. Seifert & Dibble's Blackburn 1, lcn.

STERLING COUNTY—W. C. Beesley et al's W. L. Foster 1, dr 150 ft.

TAYLOR COUNTY — Adams-Ferguson & Hobbs' Lowe 2, rig. Gibson-Johnson et al's Bingham 1, elev 1919 ft, sd 2501 ft. H. B. Herring-Hucony Gas Co. et al's Richie 1, sd 2215 ft. J. B. Jameson et al's Webb 1, elev 1905 ft, dr 6170 ft. Sanger et al's Abilene fee 1, dr 395 ft. Sanger O&R Co.'s Osborn 1, rig.

TERRELL COUNTY—Big Bend Oil Corp., et al's Bassett 1, dr 2245 ft. Mid-Kansas O&G Co.'s Good 1, elev 2405 ft, fsh 5226 ft.

VAL VERDE COUNTY—O. O. Owens et al's Mills 1, elev 2130 ft, sd 6760 ft. Phantom Oil Co.'s Ingram 1, dr by tools 3035 ft.

UPTON COUNTY—Gulf Prod. Co.'s King 1, dr 1350 ft. Penn Oil Co. & Shell Pet. Corp.'s T. M. Anderson 1, dr 910 ft.

WARD COUNTY—Atlantic Oil Prod. Co. & The California Co.'s E. F. Lanham 1, rig; E. W. Thomas 1, top salt 2244 ft, top lime 2441 ft, no show, dr gray lime 2740 ft. Gulf Prod. Co.'s Hutchings 4, elev 2639 ft, flowing 65 bbls oil daily 2565-2786 ft, and lowering cas to cut off gas; Hutchings 5, elev 2679 ft, top salt 1205 ft, top lime 2316 ft, flowing 200 bbls oil at 2555-2695 ft; O'Brien 15, rig. Magnolia Pet. Co.'s Sealy 1, dr 2000 ft. R. F. Owen et al's Johnson 1, elev 2499 ft, top anhydrite 885 ft, top Rustler lime and flow sulphur water 1026 ft, sd 1200 ft. Sid Richardson et al's O'Brien 5, rig. Shipley Oil Corp.'s Monroe 1-A, elev 2655 ft, top salt 2485 ft, sd 2520 ft. Texas Pacific Coal & Oil Co.'s M. Barker 1, top salt 1035 ft, dr 2020 ft.

WINKLER COUNTY — Champlin-Winkler Oil Corp. (Wilson's) Campbell 1, sd 4639 ft. Empire Gas & Fuel Co.'s Daugherty 1-C, dr 360 ft. Magnolia Pet. Co.'s M. J. Bashara 1, lcn; Scarborough 3, dr 1010 ft. Prairie O&G Co.'s L. E. Johnson 1, dr 565 ft. Jeffrey et al's Brown 2, sd 3120 ft. L. C. Turman et al's Daugherty 1, dr 1000 ft.

EAST TEXAS

CASS COUNTY—Jno. C. Rodgers' Lanier 1, K. A. Welbourne sur, dr sandy shale 1055-70 ft trying for ds test td 1110 ft.

HARRISON COUNTY—Shell Rock Pet. Co.'s Daugherty 1, Burris sur, sd 3520 ft.

MARION COUNTY—W. D. Chew's Fee 1, Wm. Hamilton sur, set 6-in cas 2270 ft. dr hard sandy lime 2610 ft. Trammell et al's Hussey 1, Chas. Lockhart sur, sd for water 1334 ft.

PANOLA COUNTY—Texas La. Prod. Co.'s Lawrence 1, Harrison Davis sur, dr lime 2128 ft. Knott et al's Marion Durham 1, Chas. Haley sur, sd wo 2400 ft. Smith et al's Hunt 1, Albert Johnson sur, dk. Bell et al's Burnett Lbr. Co., 1, S. B. Hendricks sur, cored sandy shale showing oil set 8⅝ cas 2047 ft td 2075 ft. Ark. La. P. L. Co.'s Brumble A-2, B. C. Jordan sur, dr 2332 ft. Creighton & Hart's Kyle 1, J. Tippett sur, rig up. Warren & Dawes' McNeese 1, A. Booker sur, dk. Natural Gas Prod. Co.'s Tom Moore 3, B. C. Jordan sur, set 6⅝ cas 4360 ft, bailing td 4666 ft.

SABINE COUNTY—Loring Oil Co.'s Nona Mills Lbr. Co., 1, Jas. Mason sur, dr 3375 ft.

SHELBY COUNTY—C. R. Ridgeway's Parker 1, Jesse McElvey sur, rig up. Chapparral Oil Co.'s Holt 2, Matthew Moore sur, sd 3300 ft.

SOUTH TEXAS

ATASCOSA COUNTY—Frontier Oil Co.'s Boynton 2, John Sharp sur, td below 2170 ft, dr.

BASTROP COUNTY—Champion Bros.' H. B. Smith 1, 1 mi w of Elgin, td 1941 ft, set csg at 1900 ft in chalk over cavity which caused oil to gush over, sluged pit and ditch. Pacific O&G Co.'s J. M. Lyton 1, 150 ft from n and e lines, dk. Chas. Long's McWilliams 1, offsets L. I. Dodwell No. 1 Brundidge well, ru. Sarsfield-Wilson's J. A. Walker 1, 8¼ mi ne of Elgin, td 700 ft, sd for water.

BEE COUNTY—Al Buchanan et al's Pettus Town 1, center blk 20, td 300 ft, set 10-inch csg, waiting on cement. Bates Prod. Co.'s Barnett Heirs 2, John Pace sur, td 3850 ft, top sand 3805 ft, dr deeper from sand at 3649-3660 ft, which showed only small amount of production, 6⅝-inch csg set at 3645 ft, log of new sand; 3817-27 ft, shale; 3827-34 sand; 3834-47, shale; 3847-50, water sand, to plug back three feet and make test. Grayburg Oil Co.'s Kimball 1, (discovery well) td 3554 ft, swabbing oil and water. Hurlbut et al's Chestnut 1, 12 mi of Skidmore, td 200 ft, sp and sd for water. Humble & Hurlbut et al's Wood 1, 5 mi se Beeville, td 5054 ft, no report, took core, attempt dst at 5004-41 ft, seat broke, gas show on pit. Eddie M. Jones' Rapp 3, dk. Humble's McKinney 7, td 2195 ft, dr in hard shale. Houston Oil Co.'s Newman 3, C. A. Kerr sur, Cosden Pool, td 470 ft, set 10-inch csg, waiting on cement; Pettus Town 2, (blk 21) lcn; Pettus Town 6, center blk 32, td 3910 ft, set 6⅝-inch csg, waiting on cement, dst 3864-91 ft, 500 lbs in one minute on ¼-inch choke; Pettus Town 7, center blk 39, td 3682 ft, dr in gumbo. Independent O&G Co.'s & Moody-Seagraves Prod. Co.'s Quincy 1, A. J. Moyah sur, td 4949 ft, swabbing. Nichols et al's Hicks 4, td 4512 ft, set 6⅝-inch csg at 4360 ft, sd. Osage Oil Co.'s A. J. Mauldin 1, 155 ft from n and e lines of 30-acre tract in Pointevent sur, 1 mi sw of Grayburg Kimball well, lcn. R. Hawn's Copeland 1, B. Q. Hadley sur, no new report. Ed Price's Weiss 2, 3½ mi se Pettus, prod 900 ft se of No. 1, td 1700 ft, dr; Weiss 3, 900 ft ne of No. 1, lcn. J. S. Mauldin et al's Mauldin 1, s Pettus, td 305 ft, set surface csg. Rawling et al's Campbell 1, sur B&B No. 129, dk. Rowan & Hook's Goree 1, 600 ft from s and 300 ft from e of blk 4, of Thomas B. Barton sur, 2 mi w of Mineral, dk. T. B. Slick's (SRC) Alfred Theis 1, td 4270 ft, dr, no later report; Townsite 3, blk 22, td 3500 ft, dr. Simms Oil Co.'s Holzmark 1, td 3549 ft, gas well with 1600 lbs pressure, gauged at 50,000,000 cubic ft of gas, some high gravity oil, standing. Union Prod. Co.'s Ray 17, td 4395 ft, dr; Ray 18, td 3914 ft, csg set 3908 ft, waiting on cement; Ray 21, td 3871 ft, set 6⅝ csg, swabbing; Ray 22, blk 42, Pettus townsite, lcn; Ray 23, offset to blk 39, townsite, 150 ft from e and 1260 ft from ne corner of townsite, dk; Ray 25, 1700 ft from s and 1400 ft from e line of Pierce Miller sur in vicinity of No. 24, lcn; Ray 26, 2500 ft from s and 2000 ft from w line of Pierce Miller sur, in gas area, lcn; Ray 30, 2 mi ne Pettus, td 2500 ft, dr. Wilson and Hill's Townsite 1, center of blk 14, lcn; Townsite 2, center of blk 16, dk.

BEXAR COUNTY—Eckert and Son's John Brehn 1, 400 ft s of No. 6 Sandemer in Dobrowolski pool, td abt 700 ft, pumping 10 bbls; Brehm 2, 400 ft s of No. 1, sp in. August Magel et al's Beck 1, sur No. 36, in Dobrowolski area, td 500 ft dr. Morosso and Collins (formerly Edminston et al) Hamberdale 3, 1 lcn from No. 2 in Dobrowolski pool, td 680 ft, prod 12 bbls. Penn Oil Co.'s Cooksey 1, J. W. Ball sur, No. 1, td 200 ft, dr. Penn-Tex Oil Co.'s Sandemer 4, Menchaca sur, No. 52, td 702 ft, prod abt 10 bbls; Sandemer 5, 300 ft s of No. 4, sp in; Sandemer 6, 300 ft s of No. 5, lcn; Sandemer 7, 300 ft s of No. 6, lcn. Russell & Moore's Mills 2, no report. Snyder & Reeves et al's Glassocock 2, 12 mi ne of San Antonio, no report. Swearingen Oil Co.'s Fee 7, 300 ft w of No. 6, td 700 ft, set csg. Watson et al's Gembler 1, 1½ mi e of San Antonio, td 1400 ft, dr. Weilbacher & Associates' Ernest 1, td 400 ft, dr. W. W. Morgan Blane 1, td 300 ft, dr.

BLANCO COUNTY—Anderson & Manning's Speer 1, John W. Speer sur, prep to sp in. Adams & Lysles' Leeders 1, td 531 ft, fsh. D. J. Meeks' E. W. Walker 1, 4 mi n of Blanco City, td 795 ft, dr oil show at 700 ft. C. L. McCreary's Kiers 1, Scherling subdivision, td 545 ft, set csg. Forest Oil Co.'s (Rosenfield et al) Hohenberger 1, sur 94, td 395 ft, dr. H. Sitton's McMillen 1, 2 mi w of Blanco, td 260 ft, dr.

BROOKS COUNTY—Ed East's (Miller and Albricht) Braulia C. de Garcia 2, Mastina y Gonzalena tract, td 400 ft, set 6⅝ inch csg, now standing. Houston Oil Co.'s Wormser-Holbein 2, Palo Blanco Manguellos grant, td 3817 ft, tested oil and water at 3744 ft, set csg at 3607 ft, now dr. Humble's Singer 2, Sec. 312, td 4009 ft, dr. Southern Crude Oil Purchasing Co.'s Holbein-Wormser 1, td 3550 ft, dr.

CALDWELL COUNTY—Batts et al's Roebuck 1, td 2160 ft, dr in chalk. J. E. Mills et al's McMahon 1, Pinchback sur, dk. Gulf Production Co.'s Kelley 1, td not reported, dr. Cargil et al's Thomas 1, J. Roberts sur, prep to sp in.

COMAL COUNTY—Caldwell and Lanier's

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T. J. Byler 1, HE&WT No. 5894 sur, td 350 ft, dr.

DE WITT COUNTY—Penn Oil Co.'s Junkers 1, 1300 ft from sw and 500 ft from nw line of 201 acre tract in John F. Pettus survey, 2 mi ne of Meyersville, ru.

DUVAL COUNTY — Humble's Koehler 49, survey 172, new location, td 1768 ft, set csg 1756 ft, prod 15 bbls oil. Mag. Pet. Co.'s Edge 1, Hahl survey 63, td 2365 ft, dr. SRC Company and Vacuum Oil Co.'s Duval Ranch 1, survey 293, td 1737 ft, csg set 1724 ft, sand 1731-37 ft, standing full of oil, mak ng heads, run tubing, estimated at 200 to 500 bbls, opens new pool.

EDWARDS COUNTY — James Dalgish et al's Sid Peterson 3, Warner Ranch, td 4140 ft, dr in lime. Phillips Pet. Co.'s Holman 2, sur No. 25, td 5590 ft, dr.

FRIO COUNTY—W. H. Wray's Barnes 1, Sec. 123, td 1400 ft, dr. United North and South Dev. Co.'s Little 1, td about 2550 ft, dr top of chalk 2376 ft, top of Eagleford 2510 ft.

GOLIAD COUNTY—A. G .Rhemenscheider, Trustee's, A. T. Fromme 1, Simpson blk, td 2300 ft, dr. Tipson Oil Co.'s B. Parker 1-C, 5 mi ne Goliad, td 498 ft, set 12½-inch csg, waiting on cement. Union Prod. Co.'s Ray 27, 1500 ft from se line and 4550 ft from sw line of Jabian Gomez survey, 2 mi ne of Union Prod. No. 3 Ray, lcn; Ray 28, 150 ft from s line and 800 ft from w line of 416.5 acre E. Ray tract, 2 mi due e of line of Union No. 3 Ray, lcn; Ray 29, tore down after ru, waiting on order.

GUADALUPE COUNTY—Emerson et al's Phillips 1, center of 80-acre tract in Media sur, lcn. Cranfill-Reynolds' Meyers 1, J. Cantu sur, td 2092 ft, dr, top Austin chalk at 2000 ft. Grayburg Oil Co.'s Wells 2, James D. Baume sur, td 3695 ft, dr. Gulf Prod. Co.'s Thomas Dix 3, td 2545 ft, set csg at 2515 ft, prod 1200 bbls fluid; Thomas Dix 4, td 2531 ft, pumping 1200 bbls fluid; Posey-Baker 6, td 2595 ft, pumping 1680 bbls pipe line oil; Thomas Dix 5, td 2525 ft, prod 1400 bbls; Molear 3, td 2620 ft, pumping 500 bbls oil; Cercy Anderson 3, td 2550 ft, to set csg; Knoblock 3, td 2535 ft, set csg; Posey-Baker 8, td 2550 ft, swabbing; Thomas Dix 6, td 1900 ft, dr; Dix McKean 10, sp in; Tadlock 3, 750 ft from n line and 150 ft from w line, sp in; Tadlock 4, 150 ft from n line and 450 ft from w line, sp in; Posey-Baker 7, td 2582 ft, flowing 600 bbls pipe line oil; Dix-McKean 11, sp in. Calhoun & Miller's Linebarger 1, td abt 1000 ft. Humble's Denman 15-A, td 2214 ft, dr; Denman 16-A, td 2565 ft, prod 800 bbls. Louisiana Oil Ref. Co.'s Dix 6, td 2571 ft, prod 475 bbls oil; Dix 7, td 2545 ft, csg set. Mag. Pet. Co.'s Dix 8, 800 ft from se line and 150 ft from w line, td 2580 ft, set csg; Annie Knodle 3, td 2524 ft, dr; Huff 1, n offset to No. 4 L. V. Echols, td 2237 ft, set csg on crevice, prod 100 bbls; Knodle 3, dk; Dix 9, lcn; Dix 10, lcn; Rand Miller 4, lcn; Dix 11, td 1600 ft, dr. New Bfls O&G Co.'s Seidman 1, td below 2000 ft, dr last report. Sun Oil Co.'s Knoblock 9, td 2545 ft, prod 480 bbls; Knoblock 10, td 2540 ft, flowing 150 bbls oil; Knoblock 11, td 2534 ft, prod 600 bbls oil; Knoblock 12, 150 ft from ne and 150 ft from nw line, td 2460 ft, dr. The Texas Co.'s Dallas-Wilson 9, 150 ft from s line and 150 ft from e line, lcn; Parrish 2, 150 ft from s line and 450 ft from w line, lcn; Knoblock 9-B, td 2560 ft, prod 2200 bbls oil; Posey-Baker 6, td 2602 ft, flowing 1700 bbls; Henry Willie 6, td 2600 ft, swabbed in for 87 bbls 37 gravity oil per hour; Knoblock 5-A, td 2460 ft, dr; Knoblock 10-B, td 2510 ft, dr; Knoblock 11-B, td 2576 ft, set csg at 2565 ft.

JIM HOGG COUNTY—Cole Pet. Co.'s Cole 1, blk 7, survey 23, W. P. Allen Ranch, dk; Wood 1, blk 16, survey 82, td 1150 ft, dr. North and Walton's Allen 1, blk 13, subdivision No. 1, W. P. Allen ranch, lcn. Wm. H. Barnhart's McCampbell ranch 1, 9 mi s of Hebbronville, td 1856 ft, dr. E. E. Watts, Agt.'s, Gomez 1, survey 125, td 500 ft, standing for water. South Texas Prod. Co.'s Hinnant 1, share 5 Las Animas Grant, td 2058 ft, set csg, waiting on cement. J. W. Pinnin's N. Hinnant 1, survey 147, dk. J. D. Pulliam Jr.'s, Jones 1, blk 5-A, Holden subdivision, Diego Hinojosa grant, ru, prep to sp.

KARNES COUNTY—Fort Bend Oil Co.'s Newberry 1, 3 mi south of Green, ru.

KENDALL COUNTY—Borget et al's Wallie Haag 1, td 1340 ft, dr. R. M. Perkins' J. Lawhon 1, td 700 ft, dr last rept. Dixon et al's Behr 1, 3 mi se Sisterdale, td below 2290 ft, dr. Molwinkle et al's Karston 1, 1 mi w of Kendalia, td abt 1500 ft, dr. Permian Oil Co.'s Boles 1, survey 542½ ft of SA&MC Railroad, 5 mi ne Boerne, sp in. Hardy Sitton's W. B. Garvin 1, td 760 ft, sd. P. B. Sterling's McCrocklin 1, 4 mi w of Kendalia, td 910 ft, dr.

KERR COUNTY—Mashe & Trunstill's Jeff Love 1, Western Kerr County, survey 1594, td 1860 ft, 10-inch csg set in Pennsylvania lime.

KINNEY COUNTY—Mag. Pet. Co.'s Wardlow 1, Blaez sur, td 3215 ft, fsh. Mardon Oil Co.'s Clamp 2, no report.

LEE COUNTY—Burt et al's (M. D. Rickett) R. C. Sanders 1, td 2841 ft, dr. A. H. Wheeler and associates' McDay 1, Donohoe sur, td 1650 ft, dr.

LIVE OAK COUNTY—Houston Oil Co.'s Snyder 1, 150 ft from n and 630 ft from s line of farm in E Garner survey 253, Abstract 189, 6 mi n of Dinero, ru; Cartwright 22, td 5424 ft, showing gas, casing set, waiting on cement; Boothe A-1, td 50 ft, set surface csg, waiting on cement. Markley et al's Reeves-Brown 1, J. E. King sur, dk. Penn Oil Co.'s Lyne 1, td abt 2650 ft, dst at 2637.46 ft, 1500 ft salt water in 28 minutes. Jacob, Buzzini, Pickett's Key 1, center of s 80 acres of blk 26, of Marbach land, Bridget Faddin survey, 5 mi e of George West, ru. Siv Keoughan's C. E. Terrell 1, 6000 ft from n and 1000 ft from e of Dan O'Boyle sur, 7 mi s of Fant City, ru.

MAVERICK COUNTY—Rycade Oil Co.'s Chittim 5, (Sec. 129) td 4765 ft, sd for water; Sullivan 5, Sec. 82, td 7092 ft, fsh.

McMULLEN COUNTY—Mogul Pet. Co.'s Martin 1, 15 mi sw of Tilden, td 28 ft, set 10-inch csg, sd. Brodie, Sheaver and Emerich's Skiner 1, 8375 ft from n line and 380 ft from e line of H. Brewer survey No. 1, 12 miles se of Tilden, spd and sd.

MEDINA COUNTY—Calco Pet. Co.'s Crawford 1, td 2375 ft, gas and oil show at 2194 ft at chalk top of Eagle Ford 2361 ft. Nat'l Oil Co.'s Howard 1, 6 mi nw Devine, td 1645 ft, set 6⅝-inch csg at 1610 ft on top of sand, cored saturated sand, 35 ft, fsh at last report.

NUECES COUNTY — Houston Oil Co.'s Comstock 1, sw of Banquette, ru. Independent O&G Co.'s C. Baldwin 1, 2½ mi w of Corpus Christi, td 5226 ft, cored 10 ft sand topped at 5216 ft, reaming down to make test. Saxet O&G Co.'s (Pearson et al) Donigan 2, 6 mi w of Corpus Christi, td 2000 ft, dr; Racheal 17, F. S. & D. C. Racheal tract, to sp. South Texas Prod. Co.'s Walters 3, 800 ft from s line and 460 ft from e line of Otto Walters land, section 34, Agua Dulce gas field, dk. H. H. Weinert's Mohle 1, 450 ft from s line and 450 ft from w line of Sec. 94, lcn.

REAL COUNTY—McGinley and Sigler's L. A. Habley 1, center of sw quarter survey 175, spudded in, to be 4000 ft test.

SAN PATRICIO COUNTY — Cosden Oil Co.'s Powell 1, 300 ft from n line and 330 ft from e line of Powell 35½ acre tract in Sec. 32 of H. Paul sub of Fuller Coleman Pasture lands se of Odem, lcn. Jacob, Bussini & Pickett's J. C. and Bobby Baldwin 1, td 4020 ft, sd mv on heavy rig to re-dr. J. L. Kenedy's Lolie McRae 1, 1170 ft nw of center of se line of 500 acre farm, 3½ mi se of Houston Boothe well, to sp in. Peterman Oil Co.'s O. K. Crow 1, td 2865 ft, dr; Foster 1, Coleman-Fulton subdivision 3½ mi w of Sinton, lcn. Saxet Oil Co.'s Carroll 1, 800 ft from n line and 130 ft from w line of blk A, Sec. 32, abstract 108, Taft subdivision, 8 mi n of Gregory, to sp in. Union Prod. Co.'s Welder 4, td 4120 ft, dr.

STARR COUNTY — Kush and Duerkson's Kelsey-Boss 1, blk 9, td 610 ft, dr. Los Olmos Oil's Kelsey-Boss 1, blk 6, td 230 ft, dr, no new report. Moon & Moore's Flores 1, Charco Redardo Grant, ru rotary to dr deeper. Texas Co.'s Guerra "A" 5, "C" porcion 67, td 2000 ft, dr.

UVALDE COUNTY — Phantom Oil Co.'s Claudt 1, survey 611, td about 2550 ft, sd last report.

VAL VERDE COUNTY—Atlantic Oil Prod. Co.'s Reynolds & Miller 1, blk 32, H&TC, no report. O. O. Owens et al's Mills 1, Sec. 128, td 6742 ft, sd. Independent Operator's Whitehead 1, I&GN sur, td 5430 ft, sd for csg. Phantom Oil Co.'s Ingram 1, Sec. 33, blk D-8, td 3035 ft, fsh for tools.

VICTORIA COUNTY—Houston Oil Co.'s McFadden 1, 1½ mi of Lion McFadden well, td 3404 ft, dr. Lion O&R Co.'s McFadden 2, td 5430 ft, dr in shale. The Texas Co.'s McFadden 1, td 4500 ft, dr in shale and lime.

WEBB COUNTY—J. L. Elliott's Esperanza Land and Livestock Co. 2, replacement hole No. 1, Sec. 815, 12 mi w of Encinal, td 1980 ft, standing. O. W. Killam's Bruni 5, td 2600 ft, plug back to 2400 ft to make gasser, now dr; Villegas 1, in Reiser field, td 1590 ft, dr. Mag. Pet. Co.'s Wright 1, survey 674, dk; Jones 1, survey 674, td 4503 ft, dr; G. Benavides 1, blk 389 of Hale subdivision, Arispe grant, td 37 ft, set 10-inch csg, wait.ng on cement. Geo. S. Marshall's Garcia 2, td 2590 ft.

WILLIAMSON COUNTY—W. D. Anderson's M. V. Lawerence 7, td 2242 ft, csg set; M. V. Lawerence 8, lcn; Simmons 5-A, set csg 1465 ft; T. P. Simmons 6, lcn; S. J. Smith 1, td 2575 ft, sd for water. Bartlett & Wilson's R. E. Stewart 2, no report. E. L. Chapman's Fuchs 6-A, td not reported, waiting on cement; J. C. Abbott 7-B, td not reported, prod 20 bbls of 37 gravity oil by head per hour. J. L. Collins' M. V. Lawerence 5, td 1462 ft, sd for water; M. V. Lawerence 7, 150 ft from e line and 115 ft from s line of 27 acre tract in S. Miller sur, lcn. E. E. Ertel et al's H. Swenson 1, sd for water. Elliott and Chapman's A. J. Carlson 1, td 40 ft, sd. Haska Bros.' Garzel 1, e of Chapman field, contract let for test; Slayers 1, contract let for test. A. J. Luke's Sommins 1, td 2210 ft, sd on account water. W. C. Marshall's R. A. Krueger 2, td 2950 ft, sd. Manning & Anderson's Cooper 1, td abt 1300 ft, sd for water. McNeill and Matthews' Meiske 1, 4 mi ne of Taylor, td 360 ft, excellent oil showing, to set csg to test. Martin et al's S. H. Jarrell 1, td 40 ft, sd. Patton Prod. Co.'s J. C. Abbot 1, offset to Mead well, td 1978 ft, prod 600 bbls, top of Serpentine 1956 ft, broken line from 1921-56 ft. Tom Patton's J. C. Abbott 1, 19 acre strip recently acquired from Peterman, McNeil and Mills, e of 32-acre tract, ru. G. Stratton's J. C. Abbott 5, sd for water. A. M. Keisker's E. L. Chapman 1, dk. Jesse Tomberlin's Partain Bros. 1, td 1410 ft, sd. Texas O&G Dev. Co.'s Garrett & Allison 1, 9 mi ne Taylor, td 40 ft, sd. R. S. Wilson's et al's C. Sitman 1, T. A. Moore sur, td 2850 ft, sd for water; Walker 1, td not reoprted, sd.

ZAPATA COUNTY—Alamo Drlg. and Leasing Co.'s Trevino 6, Claggett lease, td 1105 ft, dr; Trevino 6, Blair lease, lcn. Allied Gas Co.'s Trevino 16-A, lcn; Trevino 17-A, td 1253 ft, csg set 1230 ft, prod 75 bbls oil. Allied Gas and Allen and Morris' E. Gutierrez 7, td 1235 ft, csg set 1252 ft, prod 75 bbls; Gutierrez 8, td 1277 ft, set csg 1255 ft, prod 75 bbls; E. Gutierrez 9, ru. Arnold and Ahler's (Wicker et al) Garza 3, ru. Blair & Son's Gutierrez 1, share 2 Comitas Grant, sw of Muckleroy field, td 1392 ft, making dst. H. Coffield's Bustamente 1, share 3400 Comitas Grant, td 900 ft, dr. Nordan-Morris et al's E. Bustamente 1, 150 ft from s and e lines of w half, 60-acre tract in Comita Grant No. 7, lcn; S. Bustamente 1, 150 ft from nw line and 990 ft from ne line of 30 acre tract in Comitas Grant No. 34, lcn. Harrison et al's de la Santos 1, share 6, Comitas ranch, td 1590 ft, making dst. Keene and Jackson's Garza 1, blk 59, Comitas Grant, Zoro Pasture, td 600 ft, standing. O. W Killam's Cuellar 26, td 1415 ft, dr; Cuellar 27, lcn; Cuellar 29, td 1582 ft, set csg 1574 ft, prod 75 bbls; Hinnant 1, Sec. 72, td 2338 ft, dr; 1 on survey 74, td 1614 ft. sd; Cuellar 30-B, Sec. 277, lcn. Lincoln O&G Co.'s Wormser 1, td 853 ft, coring. Nat'l Oil Co.'s Adams 1-A, td 696 ft, sand 689-696 ft, made oil, csg set at 688 ft, waiting on cement; Luther et al 1, blk 97, da Pron subdivision, Porcion 6, lcn. Niles & Edgington's Garza 1, blk 18, Sec. 413, td 1364 ft, dr. Nix and Blankenship's Montemayor 5, Muckleroy pool, td 1266 ft, set csg, waiting on cement. B. F. Nixon's Guiterrez 1, Partition No. 10, Borrego Grant, td 37 ft, set

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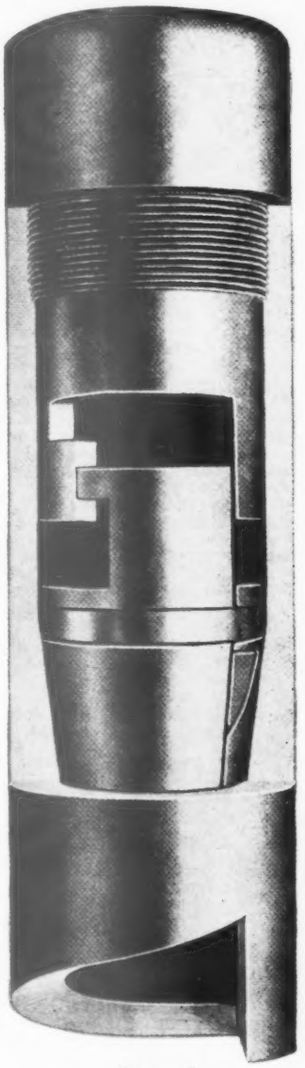

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10-inch csg, waiting on cement. John Papas, Inc.'s, Flores 1, Porcion 350, dk. Penn-Tex Oil Co.'s Benavides 3-F, ru, laying water lines. Penny Prod. Co.'s Cuellar 1, blk 1, porcion 34, Pappas survey, 175 ft from s and e lines, td 1300 ft, dr. Gordon McKenzie's Trevino 1, blk 6, Sec. 4, M&B subdivision, td 30 ft, sd. W. R. Shankle's Guiterrez 4, td 1271 ft, csg set 1257 ft, waiting on cement; Trevino 9, ru. SRC Corporation's Cuellar 1-B, td 1029 ft, set csg, waiting on cement; Cuellar 2-B, ru; Cuellar 5-B, td 1050 ft, dr: T. D. Ward's Uribe 1, share 7 Borrego Grant, prep to sp.

ZAVALLA COUNTY—Anglin O&G Co.'s Pryor 5, td 1040 ft, dr; Pryor 6, lcn. Gribbs and Davidson's Weatherby 1, near Loma Vista, td 1790 ft, dr.

TEXAS GULF COAST

Company, Well and Location	Initial Production Bbls.	Depth
WALLER COUNTY—		
W. P. Morris & Veihl, Chapman 1, 6 mi n Hempstead	•	3510

AUSTIN COUNTY—O'Hara et al's Schrader 1, sd 1800 ft. Empire's Kunze 1, San Felipe, ru. Humble's Duncan State Land 2, E edge Raccoon Bend, ru; Hugo Hagan 1, 2 mi s Raccoon Bend, dr 4255 ft shale and lime; R. Hardy B-3, e edge Raccoon Bend, dk; Fritz Lamp 1, 1½ mi sw Raccoon Bend, dr 4980 ft sand.

BRAZORIA COUNTY—Thos. Faust et al's Fee 6, 2 mi s Nash dome, dr 5165 ft lime. Steel & Strickland's Lochridge 1, near Lochridge, sd 50 ft. Rycade's Wisdom 27, Nash dome, dr 5217 ft lime. Rycade & Amerada's Seaburn 1, Stratton Ridge, abn at 2750 ft in salt. Freeport Sulphur Co.'s Fee 2001, Bryan Mound, sd 4040 ft, repairing rig; Seaburn 1, Stratton Ridge, dr 1401 ft rock; Stratton 1, Stratton Ridge, ru. Shell's Haury 1, Danbury, abn at 1600 ft in shale. The Texas Co.'s Ewing 1, Manvel, preparing to set cas at 7140 ft. The Texas Co.'s J. H. Murdock 1, Fresno, dr 2565 ft gbo. Mills Bennett's Poole 1, Allen dome, dr 4301 ft sand and lime; Allen 2, Allen dome, dr 3750 ft sandy lime; Randon 1, Allen dome, dr 5320 ft shale. United Oil Synd.'s Mores 1, 3 mi n Danbury, sd 1450 ft.

CALHOUN COUNTY — The Texas Co.'s Thomas 1, Chocolate Creek, J. P. Tilley survey, dr 5365 ft sticky shale.

CHAMBERS COUNTY—Pure's Lost Lake 5, dr 5150 ft hard sand. Pure-Rycade's Jackson 1, Oyster Bayou, dr 5845 ft shale and lime. Chicago Oil Corp.'s Lawrence 1, 10 mi s Barbers Hill, sd 3950 ft.

FORT BEND COUNTY—Gulf's Moore 25, Moores Field, dr 3375 ft sand; Moore 26, dr 2659 ft rock.

GALVESTON COUNTY—Gulf's Smith 10, High Island, stuck in sticky shale at 5025 ft. Marrs-McLean's Cade 18, High Island, abn in hard sand at 4175 ft.

GRIMES COUNTY—Wainwright-West Oils, Ltd.'s, Templeman 1, 6 mi s Navasota, dr 3018 ft. R. H. Byrd-Dearing et al's Munker 1, ½ mile n Anderson, dr 2315 ft.

HARDIN COUNTY—D. O. Speights' Gidriy 1, 4 mi s Batson, dr 2850 ft sand.

HARRIS COUNTY—Humble's Simms-Smith 78, Goose Creek, dr 4975 ft shale; Warren 8, Hockley, dr 4240 ft sand; Minnetex 3, Mykawa, completed as oil well, see story under Gulf Coast and South Texas field developments. Mrs. J. C. Baldwin's Kitzman 1, 2 mi n Cypress, sd 4250 ft. Gulf States Oil Co.'s Augspurger 1, 8 mi n Houston court house, dr 1840 ft. Lone Star Oil Co.'s McDade 1, 1 mi n Dyersdale, dk.

JACKSON COUNTY — Jackson Co. Oil Synd.'s Drushell 8, Edna, sd 3870 ft, waiting on casing to test gas sand. Warner-Quinlan's Hungerford 1, Henry Smith sur, lcn.

JEFFERSON COUNTY—Westbury Oil Co.'s West 1, S. Choate sur, sd 4100 ft. The Texas Co.'s Pipkin 4, Big Hill, dr 1400 ft rock.

LIBERTY COUNTY—Saxet Oil Co.'s Davis 2, N. Dayton, ru; Wilhite 3, N. Dayton, dr 5475 ft sandy shale, oil show. Harrison Oil Co.'s Gulf Fee 1, N. Dayton, sdtr 1650 ft. Houtex Prod. Co.'s Kynerd et al 1, N. Dayton, waiting on rig. Gulf's Ezzell 1, Hankamer, sdtr 1750 ft, first hole 4400 ft deep; Boyt 9, Hankamer, dr 1200 ft gbo. Yount-Lee's Moores Bluff 3, Esperson, depth 7590 ft. Gulf's McFadden 2, Moss Bluff, dr 5376 ft sticky shale. Humble's Breeden 1, Moss Bluff, nw flank, dr 1210 ft shale; Hylton 1, Moss Bluff, ne flank of dome, dr 4765 ft sandy shale; Sergent 1, 3000 ft n Gulf's McFadden 1, Moss Bluff, dr 1205 ft shale. Rycade's Heiskell 1, Joe Dugat, sur, dr 2845 ft sandy shale.

MATAGORDA COUNTY—Empire's Boker 1, Citrus Grove, dr 5050 ft sandy shale. Cockburn Oil Corp.'s Hawkins 2, Shepherds Mott, north dome, dr 1250 ft gbo.

MONTGOMERY COUNTY—Price & Wilhite's Juergus 2, 3 mi Conroe, dr 2950 ft shale.

ORANGE COUNTY—The Texas Co.'s Stark 2, Port Neches, dr 5320 ft shale. Gulf's W. H. Stark 1, Port Neches, trying set screen at 6060 ft.

WALKER COUNTY—Joyce Richardson et al's Smither 1, 12 mi n Huntsville, sd 3450 ft.

WALLER COUNTY — W. P. Morris & Veihl's Chapman 1, 6 mi n Hempstead, abn at 3510 ft in shale.

WASHINGTON COUNTY—Clifton et al's Pruiss 1, 3 mi sw Brenham, sd 1630 ft.

WHARTON COUNTY—C. S. Thomas' Taylor 1, Boling, sd 1585 ft; Volney 1, Boling, sd 250 ft.

SOUTHERN LOUISIANA

ACADIA PARISH—Yount-Lee's Crowley 7, Evangeline, dr 4925 ft rock; Houssiere-Latrielle 9, Evangeline, dr 7450 ft sandy shale.

ASSUMPTION PARISH—Poor Boys Drlg. Co.'s LaBarre 1, Napoleonville, sd 2425 ft.

AVOYELLES PARISH — R. A. Tippett's Chatalin 1, 5-1n-3e, sd 3400 ft. M. L. Vincent's Morrow 1, 14-2s-4e, dr 1825 ft gbo.

CALCASIEU PARISH—J. O. Davis' Ind. Lbr. Co. 1, Starks, dr 5850 ft rock. Yount-Lee's Miller 1, w edge Lockport, dr 6997 ft sandy shale. Union Sulphur Co.'s Martha Moss 1, Lockport, dr 6225 ft gbo; Moss 2, Lockport, sd 5065 ft. Gulf's Lutcher-Moore 25, Starks, dr 900 ft. Dr. Thomas et al's Jno. Hewitt 1, 11-9s-11w, lcn. J. G. Sutton's Ind. Lbr. Co. 2, Starks, ru.

CAMERON PARISH—Shell's Watkins 15, Black Bayou, dr 1600 ft; Black Bayou State 1, set cas at 4625 ft, will test sand at 5140 ft. Freeport Sulphur Co.'s Yount-Lee 4, Black Bayou, dr 1175 ft lime. Magnolia's Sweet Lake Ld. Co. 1, dr 7275 ft water sand. Vacuum's Cameron Meadows Ld. Co. 1, 21-14s-13w, dr 5150 ft sandy shale. The Texas Co.'s Calcasieu Lake State A-6, set cas at 50 ft; State-E. Hackberry 7, dr 4615 ft sandy shale. Yount-Lee Oil Co.'s Portier 2, e of Old Hackberry, Sec. 22, dr 5125 ft shale. Federal Pet. Co.'s Hebert 1, se edge Old Hackberry dome, abn at 7835 ft shale.

IBERIA PARISH—Jefferson Lake Oil Co.'s Lake Peigneur 9, Jefferson Island, dr 750 ft anhydrite.

IBERVILLE PARISH—Standard's Wilbert 8, Bayou des Glaise, dr 3275 ft sandy lime; Wilbert 5 ,Bayou Blue, total depth 3225 ft; Wilbert 7, Bayou Blue, dk; L. Baist Cooperage Co. 1, Bayou Blue, capped piling; E. B. & S. P. Schwing 1, Bayou Blue, dr 2560 ft gbo. Shell's Wilbert 6, White Castle, dr 4939 ft shale. Texas Gulf Sulphur Co.'s Wilbert 2, Bayou Choctau, abn at 1800 ft in gbo; Wilbert 3, abn at 650 ft, reported in salt; Wilbert 4, lcn.

JEFFERSON PARISH—Humble's Delaware Fur Co. 1, Barataria dome, Sec. 2-16s-23e, dr 4625 ft sandy shale.

JEFFERSON DAVIS PARISH—Vacuum's DeVilbiss 1-A, Roanoke, dr 4050 ft sandy shale.

LAFAYETTE PARISH—Pure's J. Manmotin 1, Carenco, 33-8s-4e, abn at 6750 ft in lime and shale.

LA FOURCHE PARISH—The Texas Co.'s La. Ld. & Explo. Co.-Leesville 1, Sec. 27-21s-22e, dr 3965 ft gbo in sdtr hole.

PLAQUEMINES PARISH—Humble's Cockrell-Moran 2, Lake Grande Ecaille, moving in rig; Cockrell-Moran 3, 1-21s-26e, waiting on orders, lost core bbl at 1550 ft. The Texas Co.'s Garden Island Bay State 4, 39-23s-33e, dr 4075 ft gbo. Gulf's Buras Levee Board 1, ose dome, 27-21s-30e, moving in.

ST. JAMES PARISH—Convent Oil Co.'s Jacobs 1, 28-11s-4e, sd 1900 ft.

ST. MARTIN PARISH—The Texas Co.'s Iberville Ind. Co. 2 Hager dome, dr 3000 ft; Iberville Ind. Co. 3, lcn. Rycade's Woodyard Lake 1, Bayou Bouillon, dr 5835 ft sand and shale; State 4, Bayou Bouillon, dr 625 ft sand.

ST. MARY PARISH — The Texas Co.'s South Coast Co. 1, Charenton, Sec. 41-14s-10e, sd 7650 ft.

TERREBONNE PARISH — Chas. Paggi's Evergreen 2, Houma, sd 1800 ft. The Texas Co.'s Bay Junop 2, 21-21s-14e, dr 3680 ft sand; Dog Lake A-3, 5-22s-16e, dr 2140 ft sand; State Caillou Island 4, 19-23s-20e, lcn; No. 5, dr 150 ft; Lake Pelto State 4, 8-23s-18e, lcn; No. 5, lcn; No. 6, driving piling; Bay St. Elaine 5, dk; State-Lake Barre 5, 30-21s-20e, dr 2850 ft; Four Isle 4, dr 3650 ft shale.

WEST FELICIANA PARISH — Putnam Synd.'s Como Plantation 1, 54-1s-4w, will make dr stem test at 3350 ft in sand showing oil.

ARKANSAS

CHICOT COUNTY—H. R. Smith's Lytle 1, 31-18-3, dr 1906 ft.

CLAY COUNTY—S. C. Jeffus, Tr.'s Underwood 1, nw se 4-20-8, sd 100 ft.

CLEBURNE COUNTY — Cosden Oil Co.'s Donithan Lbr. Co. 1, 19-9-10, dr slate 4220 ft. Donnell et al's Fee 1, dr shale 3300 ft.

COLUMBIA COUNTY—Sam Y. Dorfman's Merrick 1, 16-17-20, sd 2803 ft.

FRANKLIN COUNTY—Red Bank Oil Co.'s Hamm 1, 33-10-26, tested 3 to 4 mil ft gas, top sand, fsh tools, td 3750 ft.

GARLAND COUNTY—H. H. Given's Garrett 1, 1-3n-19w, sd in lime repr rig, td 3750 ft.

HOT SPRINGS COUNTY—John Watkins, Tr.'s, Cunningham 1, 11-5-16, dk. Cleary Bros. et al's Hinson 1, 19-4s-16w, set 15½ cas 20 ft, 12½-inch cas 294 ft, 10-inch cas 405 ft; 8¼-inch cas 700 ft, dr 1110 ft.

JOHNSON COUNTY—Ark. La. P. L. Co.'s Kelly 1, sw sw 14-10-24, dr 1150 ft; Hudson 1, se ne 14-10-24, rig up. Blackwell O&G Co.'s Wyver 1, 21-8-23, jarring out 6-inch cas 2100 ft, td 5600 ft. Conn Gables et al's Holing 1, 20-9-25, sd 2238 ft.

LA FAYETTE COUNTY—Crawford Drilling Co.'s Vaughan 1, 25-19-25, rig up.

LAWRENCE COUNTY—Marguerite Dev. Co.'s Broadway 1, 31-17-1, sd 45 ft.

LITTLE RIVER COUNTY—Buck Oil Co.'s Taafe 1, 25-12-32, sd 2505 ft.

LINCOLN COUNTY — B. F. Thompson, Tr.'s, McGehee 1, 8-8-7, sd partly rigged up.

LOGAN COUNTY—M. W. Greesom's Parks 1, 21-8-24, sd 1309 ft. J. H. Flowers' White 1, 13-5-26, ur 5 3/16-inch cas 3570 ft, td 3610 ft.

MADISON COUNTY—J. W. Baxter's Hallem 1, 17-16-26, sd 540 ft.

MILLER COUNTY—E. & F. Oil Co.'s E. L. Beck 1, 36-15-26, dr 2700 ft. Lenz et al's Dale 1, 25-15-26, old hole arr deepen, td 2842 ft; Johnson 2, se sw 24-15-26, 10-inch cas 121 ft, dr 1000 ft. East Texas O&G Dev. Co.'s Hervey 1, 2-15-26, rig up. O'Mara et al's Person 1, 31-15-25, lcn. Big Bill Oil Co.'s Dean 1, nw sw 30-15-25, tested sw, sd 3106 ft. Fitzwater et al's Beck 1, sw se 33-15-26, dk.

OUACHITA COUNTY — Belmont et al's Dean 1, 16-15-17, tested dry thru ds 2864-72 ft, tested 16 fourbles sw 2390 ft, dr 2525 ft. A. B. Turner, Tr.'s, Brown 1, 23-15-18, dr 1225 ft. Graves et al's Walker Trustee 1, sw sw 9-14-18, topped Nacatosh sand 1352 ft, dr lime 1578 ft. Copenhaver et al's Elliott 1, se se 11-15-17, dk.

PIKE COUNTY—Henderson et al's Tilyou 1, 26-8-24, show heavy oil 567 ft, dr 900 ft.

POPE COUNTY—Ark. La. P. L. Co.'s McFadden & Brooks 2, ne sw 15-9-21, sp dr 25 ft.

SCOTT COUNTY — Heavener O&G Co.'s Reser 1, 36-4-26, fsh tools, td 1530 ft. Ark. Valley Gas Co.'s Turner 1, se se 27-5n-30w, lcn.

SEBASTIAN COUNTY—M. W. Greesom's Spears 1, 9-7-29, tested sw wo 3515 ft. Mansfield Gas Co.'s Fee 1, 1-4n-31w, show gas 1083 ft dr 1118 ft. Ozark Nat. Gas Co.'s Bates 1, 28-8-30, tested sw 1940-50 ft, set 6⅝ cas 2144 ft, dr 2145 ft. Lavaca O&G Co.'s Moore 1, nw sw 27-8-30w, set 8¼-in cas 235 ft, dr 670 ft.

UNION COUNTY—Hickman et al's Hogg 1, 35-16-17, topped Graves sand 2351 ft, r to bottom td 2365 ft. Marine Oil Co.'s W. B. Thompson B-2, 10-18-13, lcn. P. Winn Est. F-1, 10-18-13, tested sw ds 3545-60 ft, cor lime 3584 ft. Rice et al's Whaley 1, 7-17-15, arr resume 92 ft. Malloy & Co.'s Burns 7, nw nw 31-17-15, sp set 12½-in cas 136 ft, sd repr boiler. J. E. Crosbie, Inc., et al's G. L. Murphy 1, 13-16-16, dr 1325 ft.

WASHINGTON COUNTY—Taylor et al's Runny 1, 1-13-29, fsh tools 1005 ft. Lincoln

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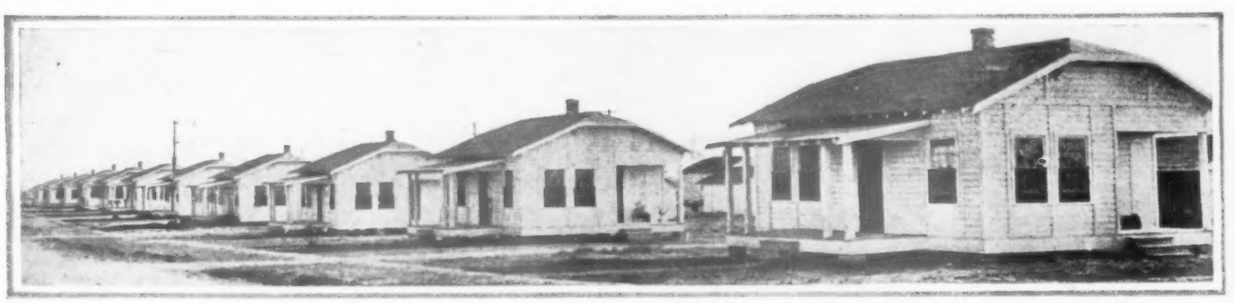

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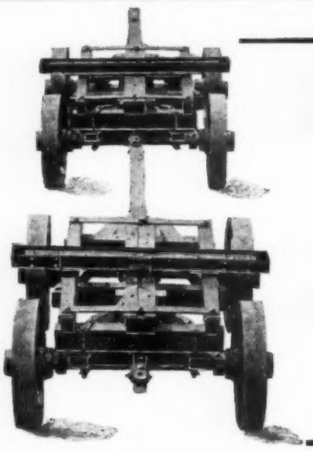

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VAN BUREN COUNTY—J. S. Martin's Scanlan 1, 5-9-13, sd 50 ft.

YELL COUNTY—T. Luckett's Balcon 1, 36-7-21, dr 5400 ft.

NORTH LOUISIANA

Completions

BOSSIER PARISH—		
H. I. Morgan et al, Kendricks 3, 22-19-11	*	1964
DE SOTO PARISH—		
Standard Oil Co. of La., Dowling Bros. 2, 5-13-13	116	2848
CONCORDIA PARISH—		
A. C. Glassell et al, Pittsfield Plantation 1, 41-8-10e	¶3	1491
SABINE PARISH (Zwolle)—		
Loring Oil Co., Schuffert 1, 27-8-12	25	2450
Texas Co., Giaque 1, 27-8-12	*	2422

BIENVILLE PARISH — Triangle Drilling Co. et al's McDermott 1, 28-18-6w, bailed dry 2262 ft, arr test in sandy lime, td 2270 ft, 6⅝ cas 2174 ft. S. P. Borden et als' Thomas 1, 27-16-9w, cor lime and shale 3300 ft. Carter & Dobson's White 1, 9-18-6w, sd 1100 ft. Olds & Smith's Brice 1, 15-16-6w, top Cane River 530 ft, sd 1420 ft.

BOSSIER PARISH — Andrews & Davlin's Nattin 1, 15-22-14, set 8-inch cas 1471 ft, 20 ft bro sand, fsh bailer, td 1501 ft. Autrey Oil Co.'s Johnson 1, 34-19-11, sd for fuel 60 ft; McDade 1, 28-19-11, sd wo, drill line 2335 ft. H. I. Morgan & Shreveport-El Dorado P. L. Co.'s Kendricks 3, 22-19-11, sw abn, td 1964 ft.

CADDO PARISH—L. B. Mawk's Swann 1, 23-21-14, sd 700 ft. Texas La. P. L. Co.'s Wall 1, 33-23-16, rig up. R. W. Norton's French 1, sw nw 34-23-16, lcn.

CATAHOULA PARISH — La. G&F Co.'s Tensas Delta A-1, 23-6-5e, dr lime 2522 ft.

CLAIBORNE PARISH—El Dorado Chief Oil Co.'s Dance 1, 27-20-7w, sd 2240 ft. Triangle Drilling Co.'s Brownfield 1, nw ne 6-19-5w, rig up. J. W. Stevenson 1, sw se 6-19-5w, rig up. Baird Bros. et al's Whittaker 1, 30-20-7w, sd 2100 ft. Bough et al's Alexandria 1, 27-20-8w, dr shale 1650 ft.

CALDWELL PARISH—Hudson et al's Burton 1, 36-12-2e, sd in sw sand 1672 ft.

CONCORDIA PARISH—La. G&F Co.'s & A. C. Glassell's Pittsfield Plantation 1, 41-8-10e, gauged 3 mil ft gas with much sw, rock pressure 610 lbs, td 1491 ft. A. C. Glassell et al's Pecania Plantation 1, 46-8-9e, lcn. Britton Koontz Nat. Bank 1, 20-8-10e, lcn. Joe Marr et al's Maxwell 1, 35-3-8e, set 8-inch cas 2000 ft, dr 2845 ft.

DE SOTO PARISH—Joe Burnham et al's Hood 1, 30-11-14, set 6⅝ cas 2290 ft, tested 1 mil ft gas 2726.37 ft, sd 2762 ft. Mich-Louzanna O&G Corp.'s Payne 1, 12-11-16, sd wo 2070 ft. Odell & Lawton's Tidwell 1, 11-13-14, tested sw show gas 3004 ft, arr plug bottom shut off sw. Holly Oil Co.'s Talbot 1, 9-13-13, rig up. Pelham & Bundy's Rhodes 1, 32-13-14, set 6⅝ cas 2800 ft, pumping oil and sw, wo gauge, td 3009 ft. J. W. Clark's Tidwell 1, 22-13-14, rig up. R. O. Roy's Nelson 2, 35-15-13, dr 800 ft. W. H. Weichert's H. Smith 1, 31-14-15, rig up. Standard Oil Co. of La.'s Dowling Bros. 2, 5-13-13, 7-inch cas 2800 ft, 8 ft bro sand, pumping 116 bbls oil day, td 2848 ft; Farmer A-3, nw ne 5-13-13, dr lime 2753 ft. S. A. Guy et al's Dowling Bros. 1, 31-14-14, sp dr 100 ft.

MOREHOUSE PARISH—Pelican Nat. Gas Co.'s Tensas Delta 1, 17-18-6e, dry thru ds 2661 ft, dr 2663 ft.

NATCHITOCHES PARISH—W. M. Coats et al's Collins 1, 28-9-10, set 6⅝ cas 2224 ft, sd wo 2605 ft. J. W. Cooper et al's Cooper 1, 35-11-10, set ds with pckr, trying bail in thru ds in chalk rock from 1280-90 ft. La. Delta Pecan 1, 32-11-10, sp 10-inch cas 60 ft, dr 810 ft. S. D. McDaniels' Clark-Morse 2, 23-5-6w, sd 2536 ft.

OUACHITA PARISH — C. W. Frierson's Haynes 1, se sw 9-17-3e, dr gumbo 1360 ft.

RED RIVER PARISH — E. C. Lucas' La. Delta Pecan 1, 34-13-11, set 6-in cas 2440 ft, 17 ft sand, wosr, td 2476 ft. Lucky Strike Oil

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Co.'s Chaffraix 1, 33-12-10, sd repr rig 2575 ft. T. G. Shaw's Wilkinson 1, se se 4-12-10w, sp 10-in cas 210 ft.

RICHLAND PARISH—W. C. Feazel's Landrum 1, 6-16-7e, dk. Island O&G Co.'s Noe 1, 3-16-5e, set 6-inch cas 2350 ft, dr 2365 ft.

SABINE PARISH — Magnolia Pet. Co.'s Giaque 1, 26-7-14, tested sw thru ds 2780 cor gummy shale 2822 ft. McDaniel's et al's Batson 2, 16-8-12, sd for water 2085 ft. Loring Oil Co.'s Shull 2, 26-8-12, top chalk 2389 ft, set 6-in cas 2320 ft, ta 2643 ft; Schuffert 1, 27-8-12, set 6⅝ cas 2376 ft, pump 25 bbls oil day, td 2450 ft. Huber & Mann's Newton 1, 26-8-12, set 6⅝ cas 2260 ft, top chalk 2333 ft, hfo wosr, td 2417 ft. Lanier & Tarver's Newton 1, 25-8-12, sd for fuel 1932 ft. Texas Co.'s Giaque 1, 27-8-12, top marl 2273 ft, elev 248 ft, set 6⅝ cas 2275 ft, dry with slight show oil, abn td 2422 ft. Lacey Barkett Oil Co.'s Lacey 1, D'Anna 1, 26-8-12, set 6⅝ cas 2194 ft, td 2244 ft. Ark. Fuel Oil Co.'s Russell 1, 26-8-12, cor 2372 ft. R. L. Gay, Tr.'s, Bowman-Hicks 8, 18-7-13, plugged back to 2492 ft, wo cement, old td 2552 ft. Sabine Lbr. Co. 5, 15-7-14, top marl 2116 ft, set 6⅝ cas 2104 ft. , blg to test in hard lime, td 2560 ft. Le Grande et al's J. W. Hale 1, 1-17-13, lcn abn. D. H. Reddick et al's Scretchfield 1, 18-9-12, sd 3280 ft. Paramount O&G Co.'s Woolums 1, 11-6-12, dr 2290 ft. Zeke Lohman's Wyatt Lbr. Co. 1, 18-4-11, partly ru wo. Lohman & Walker's Hubley 1, 21-7-11, set 6-in cas 1235 ft, tested dry 1356 ft, sd 2100 ft. Pelican Nat. Gas Co.'s La. Long Leaf 4, 4-7-11, set 6-in cas 2275 ft, dry 2295 and 2354 ft, arr set liner and test small oil and gas, td 2557 ft. La. Long Leaf 5, nw sw 4-7-11, lcn; Sabine Lbr. Co. 4, 11-7-12, dr black shale 2252 ft. Philp et al's Turner 1, nw nw 4-7-11, lcn. G. D. Neff, Tr.'s, Turner A-1, 4-7-11, dr 1620 ft. Loring Oil Co.'s Garner 1, 4-7-11, sp 10-in cas 106 ft, dr shale 1440 ft; Trammell 1, sw nw 4-7-11, set 6⅝ cas 2276 ft, flowing oil by heads, no gauge, td 2333 ft. Stacey et al's Polly 1, 18-8-12, rig up. Longoria et al's Belton 1, 31-9-12, rig up. A. C. Glassell's Logan Oil Co. 1, 23-10-13, sd wo water 1800 ft. Franks et al's Hays 1, 22-8-11, rig up. David M. Lide's Ponder 1, 15-17-11, rig up. Texas Co.'s Stille 1, 33-8-11, dr shale 1500 ft. Dixie Oil Co.'s Tatum 1, cent ne¼ 26-8-12, lcn; Parrott 1, se ne 26-8-12, lcn: Lyons et al's Williams 1, sw se 32-8-11, rig up. Boone, Tr.'s, Turner 1, nw nw 4-7-11, rig up. Wilson & Sons' Gandy-Garrett 1, 4-5-12, set 15½ cas 65 ft, set 12½ in cas 286 ft, ur 10-in cas 660 ft. Teteco Oil Co.'s La. Long Leaf 1, 18-6-12, rig up to co, old well junked and abn.

TENSAS PARISH—A. R. Willis' Curry 1, 39-11-12, flowing sw with show gas, td 2780 ft. Stovall Drilling Co.'s Miller 1, 18-10-10e, arr plug back and set cas about 700 ft to test gas show, td 1560 ft.

WEBSTER PARISH — Sarepta Oil Co.'s Gardner 3, 6-22-10, dk. Ideal O&G Co.'s Coyle 1, 24-23-11, lcn abn. J. P. Evans et al's Crichton 1, 31-18-8w, dr 2230 ft. D. H. Coyle, Tr.'s, Frazier 1, ne se 27-23-11, dk.

WEST CARROLL PARISH—Ark. La. P. L. Co.'s Griffith 1, ne nw 17-22-10, rig up.

OKLAHOMA

WOODS COUNTY—T 27n, R 16w, Sec. 33, Sinclair, Share 1, c ne sw, show oil 7137-38½ ft, hfw 7160, dr 7256 ft, hfw.

ALFALFA COUNTY—T 27n, R 11w, Sec. 12, Smith Bros., Forbes 1, ne c se nw nw, td 1420 ft sd.

KAY COUNTY — T 27n, R 2e, Sec. 17, Blankenship et al, Hansen 1, sw nw sw, water 3612-16 ft, pb and shot 10, 20, 40 qts at 3587 to 3597 ft, pump 20 bbls, running liner.

HARPER COUNTY—T 26n, R 24w, Sec. 14, Sinclair, Howell 1, c sw sw, td 8590 ft, pb 6700 ft and shot 5 qts 5300-40 ft, 7M gas, shot 50 qts 5350-5400 ft 20M gas, 200 bbls gasoline.

GRANT COUNTY—T 26n, R 5w, Sec. 25, Bu-Vi-Bar et al, Hurst 1, c sw, dr 5185 ft.

KAY COUNTY — T 26n, R 1w, Sec. 32, Boucher et al, Jefferson 1, ne c sw, dr 960 ft.

HARPER COUNTY—T 25n, R 20w, Sec. 12, Empire, Bruce 1, sw c ne ne sw, dr 6525 ft.

WOODS COUNTY—T 25n, R 15w, Sec. 10, Bu-Vi-Bar et al, Fee 1, se c sw, sd 6104 ft.

GRANT COUNTY—T 25n, R 4w, Sec. 22, Cowden, Vollmer 2, ne c se ne sw, sd 5640 ft.

ALFALFA COUNTY—T 24n R 11w, Sec. 14, J. V. Bailey et al, Acres 1, c sw ne, sd 4660 ft, woc.

GARFIELD COUNTY—T 24n, R 6w, Sec. 9, Pulse & Beamer et al, White 1, se c nw, sd 5721 ft, fshg.

WOODWARD COUNTY—T 23n, R 17w, Sec. 23, Transcontinental & Prairie, Wilbur 1, ne c, sd 7425 ft.

NOBLE COUNTY—T 21n, R 1e, Sec. 12, Barnsdall et al, Minch 1, nw c sw, dr 1070 ft.

BLAINE COUNTY—T 19n, R 10w, Sec. 13, Washoma Pet. Co., Phillips 1, c nw sw, td 2805 ft, dr cement.

LOGAN COUNTY—T 18n, R 3w, Sec. 33, Healy et al, Quier 1, se c sw, sd 3970 ft. T 17n, R 4w, Sec. 34, Eason Oil Co., Katchor 1, sw ne sw, dr 4624 ft. T 17n, R 2w, Sec. 24, Slick, Ramsey & Prairie, Jones 1, c se nw, dr 4895 ft T 17n, R 1e, Sec. 22, Slick & Prairie, Sims 1, ne sw se, dr 4840 ft.

KINGFISHER COUNTY — T 16n, R 7w, Sec. 6, Gault Brown, Boch 1, c nw se, (owdd) cored 6022 ft, cement crooked hole, dr cement.

LOGAN COUNTY—T 16n, R 1w, Sec. 33, Slick & Prairie, Morgan 1, c nw ne, dr 5592 ft.

KINGFISHER COUNTY — T 15n, R 5w, Sec. 23, Slick & Prairie, Wright 1, c nw sw, dr 4810 ft.

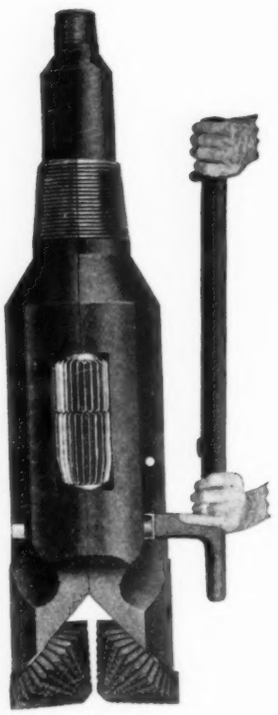
PAWNEE COUNTY—T 23n, R 5e, Sec. 15, Cochran et al, McFadden 1, ne c sw, rig. T 22n, R 3e, Sec. 26, Wentz Oil Corp., Lillie 1, se sw ne, dr 2250 ft. T 20n, R 5e, Sec. 1, Flynn, Morgan et al, Freeman 1, nw c, dr 1420 ft. T 20n, R 5e, Sec. 22, J. M. Scott et al, Jones 1, sw c ne, dr 3382 ft, small show oil.

LINCOLN COUNTY—T 14n, R 6e, Sec. 5, Atlantic Oil Prod. Co., Ryan 1, se c nw, dr 4473 ft.

OKFUSKEE COUNTY—T 12n, R 9e, Sec. 35, Henry Oil Co., Harjo 1, nw c, fshg 4090 ft. T 12n, R 10e, Sec. 3, Sheppard et al, Sheppard 1, se nw sw, water 3690 ft, sd.

MUSKOGEE COUNTY—T 11n, R 19e, Sec. 21, E. Mills et al, C. J. Martin 1, nw c se, sd 1001 ft.

PITTSBURG COUNTY—T 9n, R 16e, Sec.



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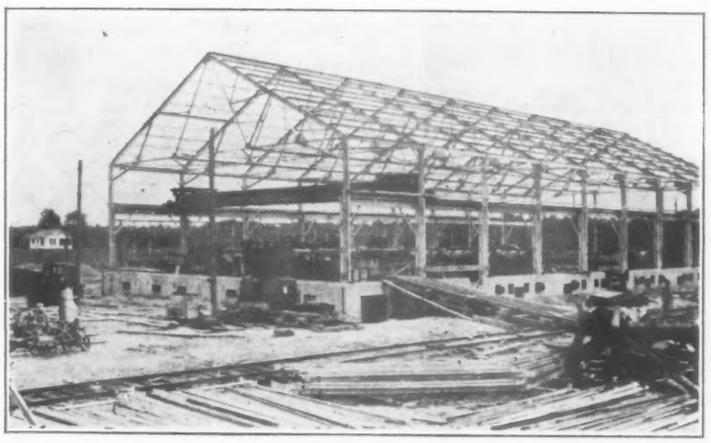

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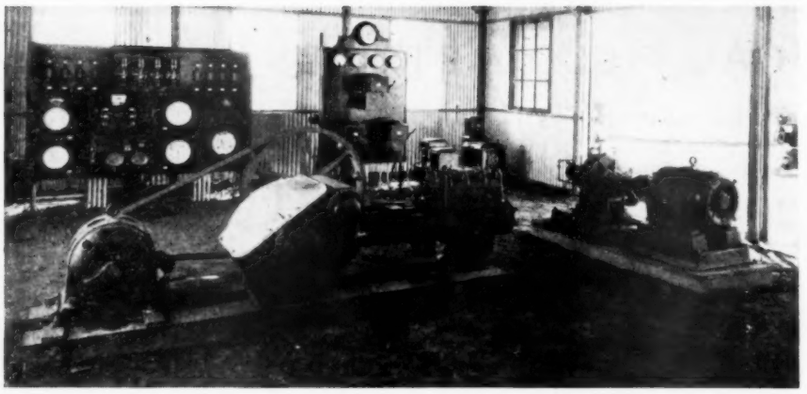

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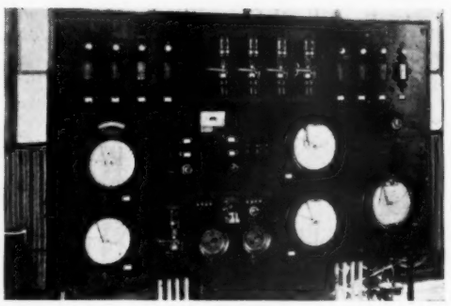

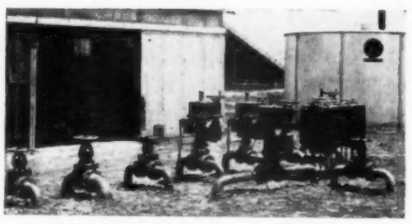

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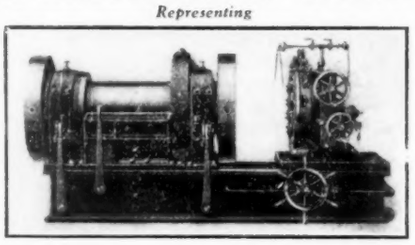

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32, Pattison et al, McDuff 1, sw c nw se, shot 130 qts 5660 ft, co bridge. T 8n, R 14e, Sec. 14, C. D. Cannady, Smith 1, nw c, rig. T 7n, R 18e, Sec. 18, Apex Oil Co., Walker 1, nw c se, dr 200 ft.

OKLAHOMA COUNTY—T 14n, R 3w, Sec. 32, Mid-Kansas et al, Messer 1, sw c, td 6495 ft, td 6771 ft, flow 450 bbls, to shoot. T 12n, R 4w, Sec. 17, C. F. Cuniff, Trustee, St. Joseph 1, sw c ne sw se, sd 6700 ft. T 11n, R 2w, Sec. 3, Ryan Consol. Co., Lawton 1, ne c nw, td 6902 ft, pb 6319 ft to shoot.

CLEVELAND COUNTY—T 6n, R 1e, Sec. 20, Harris & McNeal, Corbett 1, c sw ne, td 6518 ft, bailed small show oil, sd.

OKFUSKEE COUNTY—T 11n, R 8e, Sec. 11, Carter et al, Keys 1, sw ne sw, td 3495 ft, fshg.

POTTAWATOMIE COUNTY—T 10n, R 4e, Sec. 10, Shell, Baker 1, nw c se, lcn.

SEMINOLE COUNTY—T 10n, R 6e, Sec. 19, Bunte et al, Bruner 1, se c nw, lcn.

HUGHES COUNTY—T 9n, R 12e, Sec. 29, Cannady, Kanard 1, nw c sw, ts 4468-4506 ft, hfw, pb 3540 ft, sd.

POTTAWATOMIE COUNTY—T 8n, R 3e, Sec. 3, Texas, Knight 1, sw c se dr 4897 ft. T 8n, R 4e, Sec. 11, Lippa et al, Helmerich 1, ne c nw, dr 4190 ft. T 7n, R 3e, Sec. 19, Droppleman et al, Fundis 1, se c ne, dr 930 ft. T 6n, R 4e, Sec. 30, Deep Rock, Marshall 1, sw c, td 3808 ft, shot 60 and 100 qts, dry and abn. T 6n, R 5e, Sec. 5, Robinson et al, Croush 1, nw c sw, lcn.

SEMINOLE COUNTY—T 6n, R 7e, Sec. 9, Neal & Milton, Thomas 1, nw c ne sw, rur.

ROGER MILLS COUNTY—T 13n, R 21w, Sec. 10, Richfield, Hiatt 1, se c, rig. T 12n, R 24w, Sec. 23, Bucy & Stone, Williams 1, c sw, sd 2243 ft.

BECKHAM COUNTY—T 10n, R 22w, Sec. 29, J. F. Cuniff et al, Brower 1, c nw, sd 3793 ft.

CANADIAN COUNTY—T 10n, R 6w, Sec. 1, J. V. Bailey, Robinson 1, c ne nw, sd 150 ft.

CADDO COUNTY—T 9n, R 13w, Sec. 18, J. J. Wright et al, Boys 1, ne c, lcn.

BECKHAM COUNTY—T 8n, R 22w, Sec. 20, Carson et al, Cenby 1, sw se nw, sd 1625 ft.

GREER COUNTY—T 7n, R 22w, Sec. 1, Good & Dowell, Cliffel 1, nw c, sd 1265 ft. T 7n, R 21w, Sec. 23, H. A. French et al, Murph 1, sw nw se, sd 100 ft. T 6n, R 24w, Sec. 17, I. T. I. O. et al, Fee 1, c ne, 2485 ft, abn.

CADDO COUNTY—T 6n, R 11w, Sec. 24, Simms Pet. Co. et al, se c nw, rig up rotary.

HARMON COUNTY—T 4n, R 24w, Sec. 17, Harmon-Tex. Oil Co., Headley 1, ne c, dr 2374 ft.

COMANCHE COUNTY—T 3n, R 9w, Sec. 3, Okla. Nat. Gas Co., Doebel 1, ne c sw sw sw, sd 1450 ft.

HUGHES COUNTY—T 5n, R 10e, Sec. 30, A. V. Erwin, Jones 1, se c ne, sand 4270-75 ft, rust. T 5n, R 11e, Sec. 15, J. J. Wright, Roberts 1, se c sw, 2M gas 915-18 ft, hfw sd 1745 ft.

GARVIN COUNTY—T 4n, R 3e, Sec. 10, C. R. Obermeyer, Stricklin 1, ne c sw, sand 2747-65 ft, 200 ft oil in hole, td 2825 ft. T 3n, R 4w, Sec. 5, McMin & Arrowsmith, Carson 1, ne c nw, sd 3026 ft.

COAL COUNTY — T 3n, R 9e, Sec. 26, Blackwell, Gumm 1, nw c, dr 3890 ft.

ATOKA COUNTY—T 3s, R 10e, Sec. 18, Brookshire et al, Guinn 1, nw c, sd 80 ft.

CARTER COUNTY—T 4s, R 2e, Sec. 32, Tex-Okla Drlg. Co., Anderson 1, se ne se, dr by, td 2580 ft.

LOVE COUNTY — T 6s, R 3w, Sec. 20, Harry Hobbs, Steele 1, sw c ne ne sw, sd 3130 ft.

BRYAN COUNTY—T 6s, R 7e, Sec. 8, Geo. L. Pace, Hicks 1, sw c nw, dr 1200 ft. T 6s, R 7e, Sec. 14, W. A. Johnson, Ussery 1, se c, sd 325 ft. T 6s, R 9e, Sec. 35, O. P. Bush, Commerce Trust Co. 1, ne c, sd 600 ft.

KANSAS

STEVENS COUNTY—Argus Gas Co., Headrick 1, c nw, 9-35-37w, 8-inch 2531 ft, dr 2770 ft.

SUMNER COUNTY—Davidson et al, Strickland 1, sw se 12-35-1w, rig.

MORTON COUNTY — Hydraulic Oil Co., State land 1, nw se, 22-34-43w, sd 3200 ft.

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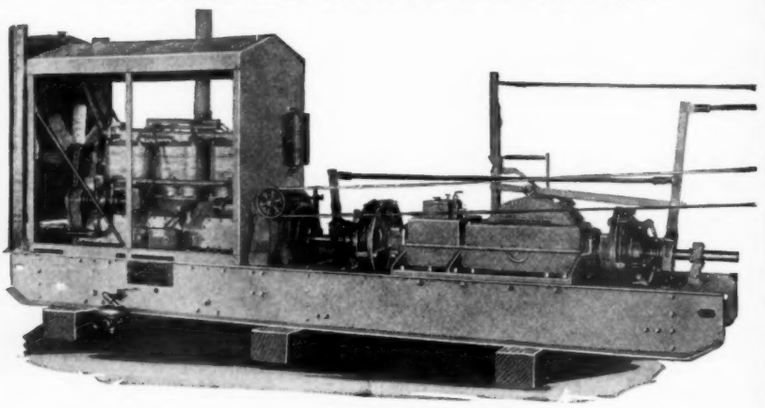

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Argus Gas Co., Forward, Fee 1, c ne, 5-34-38w, 8-inch 2542 ft, rust.

STEVENS COUNTY—Argus Gas Co., Gibbons 1, c se, 29-34-37w, 8-inch 2538 ft, dr 2670 ft. Argus Gas Co., Burrows 1, c sw, 31-34-37w, dr 1325 ft. Argus Gas Co., Jester 1, c nw, 7-34-37w, 8-inch 2608 ft, rust.

HARPER COUNTY—Atkinson et al, Misak 1, se c 25-34-6w, sd 2700 ft.

SUMNER COUNTY—Disney et al, Foy 1, c e½ se 14-34-1w, rig. Magnolia, Shriner 1, nw sw, 9-33-2e, 10-inch 1981 ft, 8-inch 2667 ft, dr 2820 ft.

CHAUTAUQUA COUNTY—Leighty et al, Carr 1, c nw se, 5-33-9e, dr 1200 ft.

STEVENS COUNTY — McNabb & Mid-Kansas, Rinehart 1, c ne, 23-32-39w, rig. Mangle, Youngren 1, c se nw, 24-32-39w, sd 2523 ft. Argus Gas Co., Olsen 1, c se, 1-32-38w, 8-inch 2470 ft, rust. Argus Gas Co., Davis 1, c sw, 31-32-38w, 8-inch 2356 ft, rust.

BARBER COUNTY—Phillips & Robertson, Powell 1, c se se, 11-32-10w ,T. Wilcox 4759 ft, sd 4868 ft.

COWLEY COUNTY—Tom Fine, Boyd 1, nw ne, 32-32-4e, 12-inch 1265 ft, sd 2650 ft. Roth & Faurot, Reidy 1, c sw nw ne, 8-32-8e, dr 375 ft.

HARPER COUNTY—Beeler et al, Bear 1, c ne, 21-31-6w, td 1830 ft, sd.

ELK COUNTY—Croft & Frazier, Keys 1, se ne 26-31-6w, stg 6-inch 1972 ft, sd 1939 ft.

KIOWA COUNTY — Phillips-Prairie, Bean 1, ne se 10-30-17w, 3950-55 ft hfw, dr 3959 ft.

BARBER COUNTY—Allison & Fitzwilliams, Kumberg 1, c se sw se, 2-30-12w, 8-inch 3540 ft, co 3576 ft.

STANTON COUNTY — Argus Gas Co., Plummer 1, c ne, 11-29-41w, dr 664 ft.

GRANT COUNTY—McKenna et al, Sullivan 1, ne c 12-29-28w, spd and sd.

KINGMAN COUNTY—Slick, Pryor & Lockhart, Wetherall 1, ne sw 36-29-6w, co 4157 ft.

SEDGWICK COUNTY — Buck et al, McNanaman 1, c ne nw nw 2-29-1e, rig.

ELK COUNTY—Alladin, Donnell 1, ne se sw, 26-29-10e, dr 1760 ft.

KIOWA COUNTY—McKenna et al, Ralston 1, c ne 14-28-20e, ru sd.

BUTLER COUNTY—Farrell et al, Sutter 1, nw c 18-28-7e, sd 830 ft.

KINGMAN COUNTY—Skelly, Miles 1, ne c, 30-27-10w, dr 550 ft.

FORD COUNTY—McNabb et al, Fowler 1, c se, 26-27-22w, td 400 ft, sd.

SEDGWICK COUNTY — Newman, Inc., Bawly 1, c se nw ne 2-27-2e, T. sil. 1, 3239 ft, 5-inch at 3246 ft, 3285-87 ft, hfw, re-run 5-inch.

GREENWOOD COUNTY—F. Konkay et al, Rook 1, nw ne ne 7-27-12e, td 1836 ft, sd.

PRATT COUNTY—Wilcox, Unknown 1, sw nw 7-26-15w, td 4395 ft hfw, csg trbl.

RENO COUNTY—Valerius, Stevens 1, c ne se ne 6-26-7w, T. Wilcox 4196 ft, td 4230 ft, hfw, sd.

BUTLER COUNTY—Gypsy, Osborne 1, nw se 22-26-3e, dr 3035 ft. National Refining Co., Settegren 1, nw c, 32-26-4e, dr 1880 ft.

FORD COUNTY—Swain et al, Kenthorn 1, c nw 21-25-24w, 6-inch 3775 ft, co.

RENO COUNTY—Shell et al, Popp 1, nw c 11-25-5w, dr 2115 ft.

GREENWOOD COUNTY — Harwood Oil, Loy 1, 20-25-10w, sw ne, 6-inch 1725 ft, dr 2130 ft. Staats et al, Swan 1, ne nw 3-25-12e, spd and sd. Bundy-Smith & O'Neil, Ford 1, ne nw 28-25-13e, 8-inch 1115 ft.

PAWNEE COUNTY—Skelly, Milhouse 1, c se 32-23-17w, T. Viola 4510 ft, hfw, 6-inch 4672 ft, dr 4831 ft.

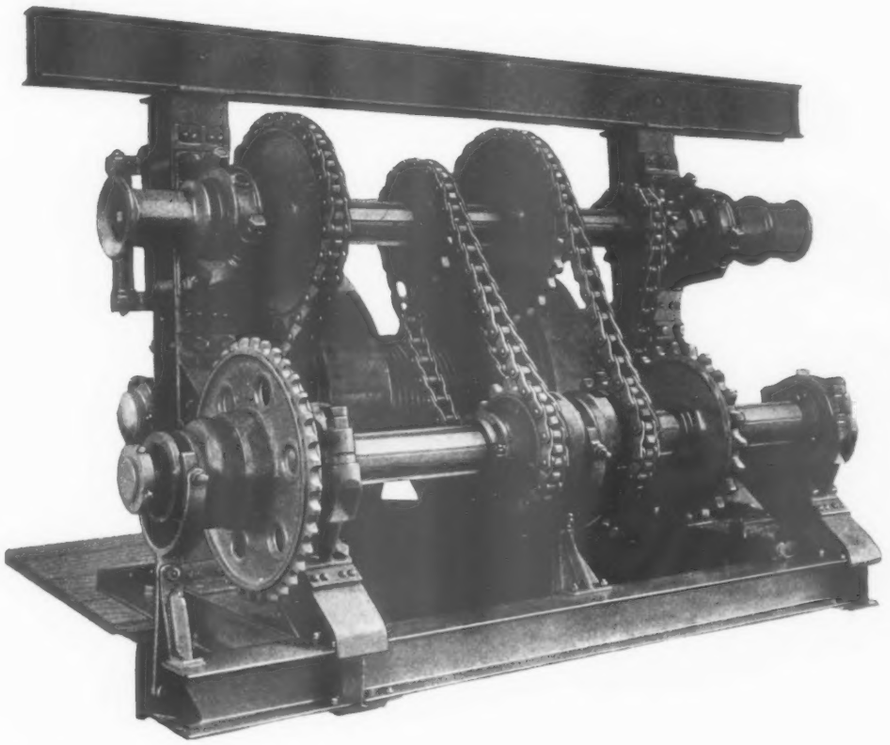
RENO COUNTY—Study, Hawry 1, ne sw 1-23-4w, 3313-33 ft, 22½M gas, show sulphur.

BUTLER COUNTY—Empire & McCullogh, Lilley 1, c sw nw nw, 23-23-5e, dr 350 ft.

STAFFORD COUNTY—Midwest, Richardson 36, se c 36-22-12w, 3542-45 ft, swb 287 bbls, rng liner and co. Boucher, Groves 1, ne c 9-22-11w, td 2665 ft, 8-inch 2735 ft, fsh 2930 ft.

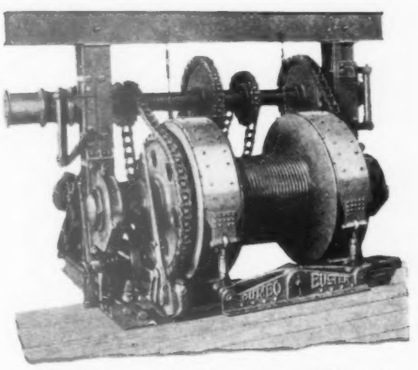
RENO COUNTY—Alco Royalty Co., Kinney 1, se c 16-22-7w, dr 2740 ft. Braden et al, Thaisen 1, se ne 6-22-4w, td 1920 ft, rng 10-inch.

COFFEY COUNTY—Hegberg et al, Kroft 1, se sw se, 30-22-14e, dr 310 ft. McGregor et al, Wood 1, c ne nw sw 20-22-15e, dr 650 ft. Rob-



NEW GUMBO BUSTER 4 SPEED JACK SHAFT

LINE SHAFT:	7½″ Diameter; Forged; Turned and Ground; Alloy Steel.
JACK SHAFT:	7½″ Diameter; Forged; Turned and Ground; Alloy Steel.
DRUM SHAFT:	8″ Diameter; Forged; Turned and Ground; Alloy Steel.
BEARINGS:	American heavy duty roller bearings on Line Shaft, Jack Shaft, and Drum Shaft.
SPROCKETS AND CLUTCH BLOCKS:	Chrome nickel steel; heat treated.
FOOT PEDAL AND BRAKE BASE:	All parts assembled on one base and handled as a single unit.
NO KICK-BACK:	Due to front equalizing compound brakes, driller can handle long heavy string of drill pipe with ease.
BRAKE FLANGES:	Special chrome Vanadium steel; heat treated. Mechanical treatment to prevent brake lining from freezing to flange.. Cool brake.



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FOR OPERATORS WHO KNOW THAT SPEED *in coming out of the hole* » » » MEANS MONEY

SOLD BY

Republic Supply Company

OIL AND GAS WELL SUPPLIES

Cable and Rotary Tools

GENERAL OFFICES: HOUSTON, TEXAS

erts et al, Hay 1, sw se nw, 32-32-15e, dr 1125 ft.

RICE COUNTY—United Pet. Co., Wellman 1, ne c 29-21-9w, td 2090 ft, swaging 10-inch.

MARION COUNTY—Magnolia, Davis 1, se nw 18-21-2e, 8-inch 2700 ft, dr 2860 ft.

COFFEY COUNTY—Prairie, Hatch 1, nw se, 35-21-13e, dr 1805 ft.

PAWNEE COUNTY—Phillips, Cuthberson 1, c ne, 27-20-15w, spd.

BARTON COUNTY—McCool et al, Tsern 1, c sw se ne 12-20-11w, 12-inch 900 ft, dr 1500 ft.

RICE COUNTY—Perry et al, Unruh 1, c se ne se 27-20-2w, lcn. Skelton Oil, Ott 1, c se se, 16-19-14w, rig. Hershey, Golden & Skelly, Brandenstein 1, c sw 10-19-10w, base KCL 3235 ft, rng 6-inch 3267 ft.

MARION COUNTY—Marshall et al, Higgens 1, ne c 33-19-5e, rig.

LYON COUNTY—Griffith et al, King 1, nw c 8-19-10w, 12-inch 910 ft, sd.

RUSH COUNTY—Syndicate Oil, Tannen 1, c sw 11-19-16w, lcn.

RICE COUNTY—Jasper & Beschka, Cupp 1, sw ne, 22-18-9w, dr 850 ft.

McPHERSON COUNTY—Alladin Pet. Larson 1, c nw, 22-18-4w, rog.

RUSH COUNTY—McPherson, Brack 1, c nw, 24-17-16w, dr 3944 ft.

ELLSWORTH COUNTY—Slick et al, Hecken 1, nw c 24-17-10w, 2980-82 ft, 6M gas, td 2982 ft, csg trbl.

MARION COUNTY — Dixie & Arkansas Fuel, Hacker 1, nw ne 6-17-1e, T. chat 2720 ft, sd.

RUSH COUNTY—Prairie, Leiker 1, c nw sw sw 5-16-13w, dr 3222 ft.

ELLSWORTH COUNTY—Alladin & Marland, Barecky 1, c nw, 3-16-10w, rig.

MORRIS COUNTY—Urschell et al, Scott 1, ne sw 6-16-6e, sd 2420 ft. Pratt et al, Whiting 1, nw sw sw 34-16-6e, sd 350 ft. Hankenson et al, Sessnum 1, sw se 24-16-9e, rig.

ELLIS COUNTY—Rush Oil Co., Gatewood 1, nw 4-15-20w, dr 3815 ft.

FRANKLIN COUNTY—Empire, Wasson 1, c se se, 34-15-18e, dr 970 ft.

RUSSELL COUNTY—Empire, Sherwood 1, c se nw nw 21-14-13w, rog.

ELLSWORTH COUNTY — Milton et al, Kester 1, sw ne, 6-14-9w, ru.

OSAGE COUNTY—Riggs & Smith, Wood 1, c se nw 21-14-15e, sd 410 ft.

DOUGLAS COUNTY — Steinbushel et al, Unknown 1, sw ne nw 34-14-21e, td 1110 ft, sd.

GOVE COUNTY—Valerius et al, Todd 1, nw c 24-13-27w, dr 4125 ft.

RUSSELL COUNTY — Austin Drlg. Co., Rockefeller 1, se c 6-13-12w, sd 1884 ft.

SALINE COUNTY—Twin Mounds Oil Co., Weis 1, c w½ ne nw 20-13-4w, td 2125 ft, sd.

DICKINSON COUNTY—Severs et al, Lerringood 1, ne sw 13-13-2e, T. chat 2205 ft; T. lime 2315 ft, dr 2410 ft. Krooger et al, Dische 1, c nw ne ne 17-13-2e, sil. L. 2935-43 ft, hfw sd.

GOVE COUNTY — Johnson & Atlantic, Wright 1, c se ne 11-12-27w, sd 800 ft.

PAWNEE COUNTY — Central Commercial, Helms 1, se ne 2-12-20w, sd 3705 ft, cemtd. cave.

DICKINSON COUNTY — E. H. Morgan, Whitehair 1, nw se 9-12-1e, dr 3300 ft.

RUSSELL COUNTY—Gilbreath et al, Bratton 1, c ne 33-11-13w, dr 2155 ft.

ROOKS COUNTY—Streeter & Stearns, Conger 1, c se nw ne 16-10-16w, dr 1600 ft.

CLAY COUNTY—Chrisler, Tivier 1, sw c 19-8-3e, spd and sd.

MARSHALL COUNTY—Swicker & Simcox, Remple 1, c n½ nw 22-4-9e, sd 1245 ft.

WASHINGTON COUNTY — Simcox, Perwell 1, nw se ne 16-3-3e, sd 510 ft.

MARSHALL COUNTY—Blazier et al, Runkel 1, se nw 13-2-6e, spd and sd.

NEBRASKA

FURNAS COUNTY — Graham Bros., Edwards 1, nw sw, 13-2n-22w, sd 3250 ft. Southwestern Pet. of Nebr., Montague 1, se sw sw 28-1n-22w, sd 1750 ft.

WEBSTER COUNTY — Mid-States Expl., Platt 1, c se, 3-1n-11w, 8-inch 2307 ft, dr 2370 ft.

MISSISSIPPI

Completions

HINDS COUNTY (Jackson Dist.)—Jackson O&G Co., Mayes 2, 2-5-1e * 2737

Gulf Ref. Co., Crane-Lawrence 1, 26-6-1e . ..... ¶10 2459

RANKIN COUNTY (Jackson Dist.)—Gulf Ref. Co., City of Jackson 1, 10-5-1e . ..... ¶30 2460

Pearl River O&G Co., Pate 1, 12-5-1e . ..... ¶40 2418

ALCORN COUNTY — Alcorn Pet. Co.'s Matthews 1, 14-2s-7s, fsh junk, td 2735 ft.

CLAY COUNTY—Ohio Oil Co.'s Cantrell 1, ne ne 16-15s-5e, set 18⅝ cas 80 ft, dr 700 ft.

CHICKASAW COUNTY — Hightower & Golson's Fleming 1, 30-13-3, driving 8¼-inch cas to rock, td 1895 ft, now using cable tools.

HINDS COUNTY (Jackson Dist.) — Mrs. Ella Rawls Reeder's State Land 1, 25-6-1e, sd 2905 ft. Jackson O&G Co.'s Central Cotton 1, 3-5-1e, dk; Mayes 2, 2-5-1e, set 6⅝ cas top Midway shale 2482 ft, top Midway chalk 2581 ft, dry abn in chalk and shells, td 2737 ft, elev 269 ft. Love Pet. Co.'s Morton 1, 34-6-1e, dk; Ridgeway 1, 2-5-1e, top Midway shale 2367 ft, set 6⅝ cas top Midway chalk 2455 ft, bailed dry show sw, sd wo, td 2488 ft; Malay 1, se nw 15-5-1e, set 15½ cas 40 ft, set 10-inch cas 718 ft, dr 950 ft. Love Prod. Co.'s Crisler 1, nw sw 2-5-1e, top Midway shale 2373 ft, elev 269 ft, set 6⅝ cas top Midway chalk 2468 ft, tested ¼ mil gas, much sw, wo, td 2485 ft. Miss. Tex Oil Co.'s Negro Fair Assn. 1, 28-6-1e, sd in sand and shale 1902 ft, cur titles. Tri-State O&G Co.'s Wilson 1, 23-6-1e, dk. Universal O&G Co.'s Holliday & Ross 1, 8-6-2e, ta 2653 ft; Sharbrough 1, 28-6-1e, set 10-inch cas 88 ft, wo. Gulf Ref. Co.'s Crane-Lawrence 1, cent ne¼ 26-6-1e, 10 mil ft gas 1080 r.p., td 2459 ft, may deepen. Miss. Pet. Co.'s Solvent Inv. 1, sw sw 14-5-1w, dr 1850 ft. Baptist Orphanage 1, se se 28-6-1e, set 10-inch cas 240 ft. Le Fleur O&G Co.'s Chadwick & Brown 1, sw nw 11-5-1e, set 10-inch cas 700 ft, dr boulders 1600 ft, elev 261 ft. Kennedy et al's Fee 1, ne ne 34-6-1e, lcn. Hawkeye Gas Co.'s Webster 1, ne nw 15-5-1e, sp.

KEMPER COUNTY (De Kalb Dist.)—W. W. Jones' Rosenbaum 1, lcn not given, dk.

LA FAYETTE COUNTY—F. E. West et al's May 1, 22-10-1w, rigged up wo.

MADISON COUNTY (Jackson Dist.)—Miss. Pet. Co.'s Raymond 1, nw sw 32-7-2e, set 12¼-inch cas in blue gmbo 706 ft.

MONROE COUNTY (Amory Dist.)—Amory Dev. Co.'s Bourland 1, 2-13-19, sd wo 2912 ft. Park Bowser's Cowart 1, 2-12-19, sd 85 ft. Associated Royalties' School Board 1, 16-15-17w, sd 60 ft. Amory Pet. Corp.'s Harris 1, nw nw 18-13s-17w, lcn; Carter 3, se se 7-13s-17w, lcn.

RANKIN COUNTY (Jackson Dist.)—Love Pet. Co.'s Moore 1, 28-6-2e, sd 900 ft. Redmond et al's Graves 1, 12-5-1e, re-bldg dk. Pearl River O&G Co.'s Pate 1, 12-5-1e, top Midway shale 2331 ft, top Midway chalk 2413 ft, set 6⅝ cas 2400 ft, est 40 to 50 mil ft gas, td 2418 ft. Southern Pet. Co.'s Investment 1, 12-5-1e, set 6⅝ cas 2385 ft, top Midway shale 2316 ft. Millstein O&G Co.'s Hartfield 1, se ne 12-5-1e, dr gumbo 2000 ft. Gulf Ref. Co.'s City of Jackson 1, (formerly carried in Hinds Co.) ne se 10-5-1e, top Midway shale 2361 ft, elev 254.6 ft, top Midway chalk 2451 ft, set 6⅝ cas 2374 ft, 30 mil ft gas, td 2460 ft; Hamilton Est. 1, sw sw 4-5-2e, lcn.

WARREN COUNTY (Vicksburg Dist.)—Henderson et al's Dornbusch 1, 8-18-15, sd with ds in hole, td 2475 ft.

WEBSTER COUNTY — Cumberland Oil Co.'s Henley 1, 15-21-11, ta 1865 ft.

WINSTON COUNTY (Louisville Dist.)—Mississippi Drilling Co.'s Scarbrough 1, nw nw 15-13n-14e, rig up.

YALABOUSHA COUNTY (Water Valley Dist.)—J. D. Collett et al's Blackmer 1, se nw 14-11-4w, r to set 8¼-inch cas at 2424 ft, td 2434 ft.

ALABAMA

HOUSTON COUNTY—J. R. Sealey et al's Fee 1, 13-1n-27e, changing from cable tools to rotary, td 3100 ft.

LAUDERDALE COUNTY — P. J. McAlpine's O'Neal Hrs. 1, 8-2s-13w, sd in white gray lime 2500 ft.

MORGAN COUNTY—Albany-Decatur O&G Co.'s English 1, 6-6-4, fsh for cas 4130 ft.

SUMTER COUNTY—B. W. Bates' Fee 1, 3-18-1w, ta 1200 ft; Fee 2, 3-18-1w, rig up wo.

WASHINGTON COUNTY—Hobson et al's Wilson 1, 27-7-1w, sd in limey shale 881 ft; Hobson Bros. 1, 9-8-2w, sd 1450 ft. Oscar Brown's U. S. Land & Cotton 2, 25-3-2w, no report.

TENNESSEE

DECATUR COUNTY—Chester County O&G Co.'s Montgomery 1, dr sand 1962 ft.

COLORADO

ADAMS—N. M. Slatt 1, se 27-25-64w, dr 2325 ft.

ARAPAHOE—McDebb Drlg. Co.'s Fitzsim-

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"LET me read you this sentence from our field man's letter:

'There are lots of arc welders on the market but for pipe line work we've just got to have welders that deliver an even flow of current and that are rugged enough to stand the rough treatment we give them on pipe line jobs . . . That in a word is our requirement.'"

PROGRESS

"Then why doesn't he confine himself to the one word . . . 'STABLE-ARC'?"

I'll just write him back and say: 'What you want is what most operators prefer . . . the Lincoln "Stable-Arc."

'With it you'll produce more and better welds due to the STABILITY of its arc.

'You'll be interested to know that the MAJORITY of arc-welded pipe lines have been welded by Lincoln "Stable-Arcs", and here's why:

'Due to their automatic idling device, an exclusive Lincoln feature, 25% saving in fuel consumption is secured.

'As to ruggedness, it has all welded steel frame, welded steel canopy, welded steel removable side and end panels to protect it against the weather and the meddler . . . both of which are with us always'."

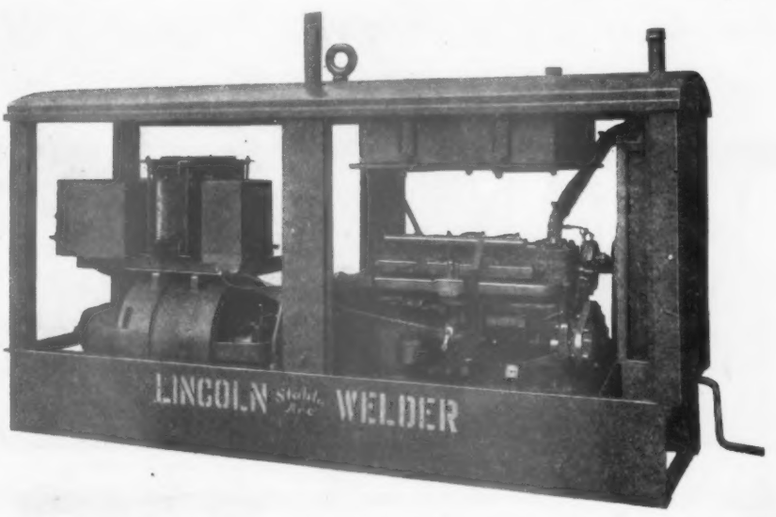
THE LINCOLN ELECTRIC COMPANY

Department No. 33-10 Cleveland, Ohio

World's Largest Manufacturers of Arc Welding Equipment

W-163

Illustrated at right is a Lincoln "Stable-Arc" welder, gasoline engine driven type, having a 300 ampere N.E.M.A. rating with current range of 90 to 375 amperes. This type of welder has supplied the welding current for the majority of arc-welded pipe lines.



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Lincoln "Stable-Arc" welders gasoline engine driven type are fully protected from weather by welded steel canopy and removable steel side and end panels.

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NIKROME SHAFTS

mons 1, 7-45-66, swedg. 6⅝-inch, td 5692 ft. Merritt et al's U. P. 1, nw 17-5s-64w, shut off water 1305 ft.

ARCHULETA — Outwest Inc. Co.'s Fitzhugh 1, se 34-33n-1e, resum 520 ft.

BACA—A. R. Jones Oil & Optg. Co.'s Boice Cattle 1, 22-34s-42w, dr 3715 ft.

BOULDER—Reliance Oil Co.'s Anderson 1, se 18-3n-70w, dr 1000 ft.

DELTA—Crawford O&G Co.'s McKissen 1, ne 28-15s-91w, stand 1100 ft.

DOLORES—Ohio Oil Co.'s Glade 1, nw 11-41n-16w, sd for winter 6747 ft.

DOUGLAS—Perry Park Oil Co.'s Cannon 1, nw 11-9s-59w, stand at 2006 ft.

EL PASO—Utemore Syndicate's Cannon 1, nw 10-16s-66w, stand 1100 ft.

GARFIELD—Fulton Pete Co.'s Permit 1, ne 8-8s-102w, dr 2821 ft.

JEFFERSON—Ruby Hill O&G Co.'s Braden 1, se 24-4s-59w, carry 6⅝-inch at 3664 ft.

LARIMER—Smith et al's State 2, ne 36-12-70w, dr 265 ft. Donohoe et al, Maxwell 1, 25-8n-70w, sd 510 ft.

LA PLATA—McGarr Pete Co.'s Mesa 1, ne 27-33n-12w, dr 2905 ft. Klem Pete Corp.'s Olbert 1, se 9-35n-12w, 4¾-inch at 2623 ft. Murchison Oil Co.'s Doescher 1, nw 9-33n-13w, stand 700 ft.

MESA—Argo Oil Co.'s Hoel 1, ne 23-8s-104w, sdtr at 2450 ft, td 3000 ft.

MOFFATT—Vermillion O&G Synd.'s 1, se 23-9n-100w, stand 750 ft. Midwest's Hannawalt 24, 4-6n-92w, redr at 2931 ft. Mtn. Fuel Supply's State 2, tract 37-12-100, rig up. S. H. Keoughan et al's State 1, se 15-4n-101w, dr 2516 ft.

MONTEZUMA—Haller et al's Haller 2, 33-36n-14w, compl. small gasser at 778 ft.

MORGAN—Ind. Terr. Illum. Oil Co.'s State 1, ne 16-1n-7w, dr 3100 ft.

PUEBLO—Kuykendall Oil Corp., Beecher 1, 7-22-66, dr at 136 ft.

PARK—So. Park Oil Co.'s Milligan 1, se 13-9s-76w, dr 1300 ft. So. Park O&G Co.'s Esche 1, ne 5-9s-76w, dr 515 ft.

ROUTT—Gorham et al., Onholt 1, 29-4n-87w, spdg at 25 ft.

RIO BLANCO—Texas Prod. Co.'s Potter 1, se 30-2n-69w, gas at 5987 ft, blow to co.

WELD—Platte Valley Pete Corp.'s Patterson 1, se 24-6n-61w, dr 6509 ft. Eastman Oil Co.'s Steel 1, ne 14-2n-67w, sd 165 ft.

WASHINGTON — Middlemist Oil Co.'s Middlemist 1, se 14-4s-56w, dr 1505 ft.

MONTANA

BIG HORN — Embar Drlg. Co., 21-6s-36e, resume 3056 ft, to dd.

CASCADE—Andover Oil Co.'s Floweree 1, se 20-21-2w, stand 800 ft.

CHOTEAU—Coolidge & Coolidge, Lehnfelt 1, sd 50 ft.

FERGUS—Melton Corp.'s 1, se 24-21s-17e, dr bel 2800 ft. Northern States Oil Co.'s Woodward 1, se 20-14n-24e, dr 150 ft.

GLACIER — Glacier Oil Co.'s Omsberg 1, nw 33-35-5w, sd for cem, 2465 ft. Texas Prod. Co.'s 1, 13-35n-6w, pull 10-inch, td 2700 ft, dr out cem plug. Fulton Pete Corp.'s Blackfeet 1, ne 28-36n-12w, dr 750 ft, oil show at 600 ft. O'Neil's Michaelson 1, se 28-36-5w, spd 200 ft. B. & H. Oil Co.'s Haines 1, se 2-34-6w, wait for pipe 400 ft. Jefferies-Hoerr-Dawson's 1, ne 7-31-12w, dr 1700 ft.

GOLDEN VALLEY — Golden Valley Oil Co.'s 1, se 28-6-22, td 1400 ft. Texas Pacific's 1, sw 21-8s-21e, mvg in.

LIBERTY—Northland O&G Co.'s Yurman 1, 36-33n-6e, dr 2735 ft. Sunburst O&R Co.'s McLaren 1, se 9-37-6e, cem 2970 ft. Utopia Oil Co.'s Eleanor Ass'n 1, sw 11-33-6e, sd 3170 ft. Western National Gas Co.'s H. Brown 1, nw 20-37-4e, abn 1780 ft.

MUSSELSHELL — Minnesota-Flatwillow's Ivanhoe Dome 1, 7-11-31, dr bel 900 ft.

PETROLEUM — Minnesota-Flatwillow's 2, 5-13n-25e, rig burned, td 1840 ft Oregon-Flatwillow's 1, 3-13n-26e, dr 300 ft.

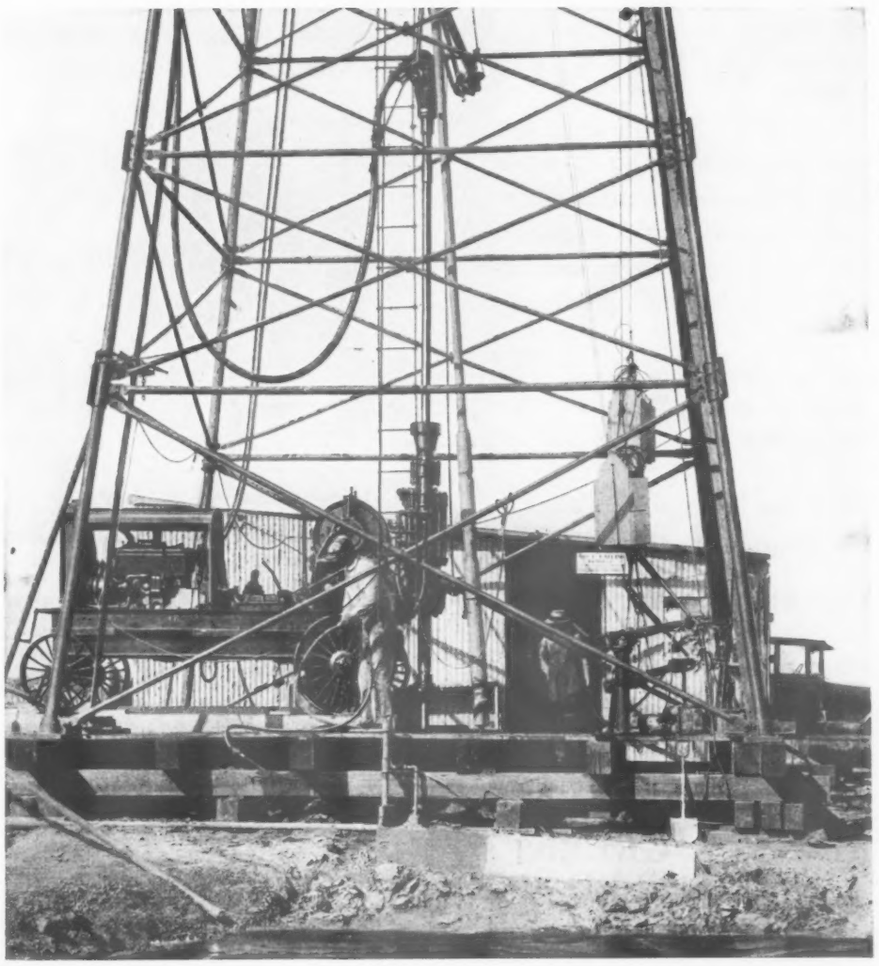
PONDERA—Miller Bros.' Bruins 1, nw 17-28n-1w, rig up, spudded. Oil Well Drlg. Co.'s VanDaele 1, ne 36-30w-38, fsh tools 4215 ft.

ROSEBUD—Prairie O&G Co.'s 1-X, 26-10-39e, ur in shale 1285 ft.

SHERIDAN—Sheyenne O&G Co.'s 1, nw 15-36n-53e, to res at 1400 ft.

TETON—Andover Oil Co.'s 1, ne 5-24n-4w, td 300 ft. Newman et al's Fitzgerald 1, 26-32n-

See the Sullivan "50" make hole at Tulsa



This newest Sullivan Core Drill which will be on display at the International Petroleum Exposition—

—drills production holes to 1500 feet.

—core drills to 3000 feet.

—sets 11¾″ casing.

—uses Kelly or grief stem.

—has hydraulic feed, with sensitive pressure control.

—has 54 h.p. engine.

—has 3-speed hoist.

THE rapid spread of core drilling for structure has called for a *fourth* structure drill in the Sullivan line. So now, even where the key bed is deep down . . . the value of leases can be determined quickly and economically . . . and the favorable "highs" can be spotted at a fraction of the cost of wildcatting. Details of this splendid new drill are in Sullivan Booklet 85-M. But see the drill at work in Tulsa!

In addition to four structure drills there are eight other core drills in the Sullivan line. On deep tests they make holes 3 or 4 inches in diameter, with only a few changes in sizes of casing. Hard or soft material is drilled rapidly as encountered, with no change in equipment. Casing seats are indicated by the cores. And the thousands of dollars saved in time, equipment, labor, and transportation, easily pay the cost of redrilling when strikes are made.

Sullivan Core Drills are available for every type of job, using hand power, gasoline or steam engine, or electric motor.

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In addition to the Sullivan "50" drill in operation, the Sullivan display will include a "40" Structure Drill, a new large core barrel, "Sullite" portable lighting plants, Stringalite lighting cable, a vibrationless portable air compressor and a cathead.

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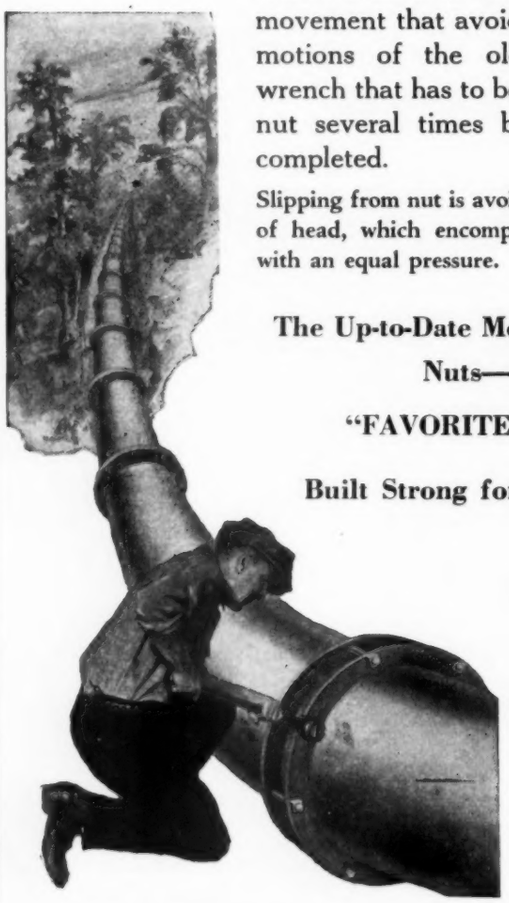

which turns nuts with the quick ratchet movement that avoids the time-wasting motions of the old style open end wrench that has to be removed from the nut several times before operation is completed.

Slipping from nut is avoided by the socket form of head, which encompasses nut on all sides with an equal pressure.

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ESTIMATES OF OIL RESERVES

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12, rig up. Rocky Mtn. O&G Co.'s Salmond 1, ne 4-23n-8w, resum 1570 ft. Midwest Ref. Co.'s Scott 36, ne 2-26n-6w, cem 2319 ft. Earl Oil Co., se 22-22-8w, set 10-inch 2000 ft.

TOOLE — International Royalty Holding Co.'s Henry 1, se 26-35-3e, sd 2415 ft, wait for pipe. Vantana Oil Co.'s Peterson 1, se 22-34-4w, abn 2075 ft. O. I. C. Gas Co.'s Wolland 1, se 11-34-2e, spud and sd.

VALLEY—Texas Pacific's 1, nw 31-37-38e, test gas at 1090 ft.

NEW MEXICO

DE BACA—Matador Oil Co.'s Wood 1, se 6-4n-20e, co 3005 ft.

CHAVES—Warman Oil Trust, 27-13-24, so water, td 1692 ft.

EDDY—Lockhart et al's Parker 2-X, 23-17-30e, dr 3325 ft.

LEA—Hobbs High Co.'s State 1, 35-18s-38e, dr 3910 ft. Tidal's Coleman 1, ne 17-21s-38e, plug back to compl. 150 bbl well at 4125 ft. Atlantic Oil Co.'s State 1, 6-19s-38e, 3000 bbls at 4201 ft. Tidal's Grimes 2, 29-18-38, dr 4160 ft.

McKINLEY—J. W. Halsell's Santa Fe 1, 17-18-9w, dr 3270 ft. Wms. et al's A. T. S. F. 1, sd 19-18n-8w, stand 1850 ft.

QUAY—Silverstein et al's Wetzel 1, 29-12n-33e, stand 85 ft.

RIO ARRIBA—Berringer et al's Hartman 1, ne 8-29n-7w, sd 825 ft. San Juan Pete Co.'s Gov't 1, se 14-30n-7w, sd 515 ft.

SAN JUAN—Dorothy Oil Co.'s Terwilliger 2, 29-30-9w, stand 1750 ft. Kutz Canon O&G Co.'s Day 1, se 20-28n-10w, dr 1989 ft. Childers Drlg. & Pr. Co.'s Westwater 2, nw 23-31-16w, sd 2525 ft. Reserve Oil Co.'s Shafer 2, ne 1-21n-14w, abn 780 ft. Rio Grande Dev. Co.'s Lanier 2, 9-29-11w, stand 1380 ft. Continental Oil Co.'s Rattlesnake 24, 1-29n-19w, spud 65 ft. Murchison Oil Co., Angels Peak 4, se 11-28-11, ready to spud.

SAN MIGUEL—Pioneer O&G Co.'s Thunderbird 1, nw 14-15n-16e, wait 2355 ft. Starr Oil Co.'s Adams 1, ne 25-17n-16e, 8¼-inch at 3271 ft. Cibola Pete Co.'s Crown 1, se 9-13n-14e, resum 320 ft. Hershfield Dev. Co.'s Cabra Springs 1, ne 21-12n-22e, wtg for cas 1200 ft.

SOCORRO—Lockhart & Co.'s Stackhouse 2, 14-3s-6e, pipe frozen 2770 ft.

TORRANCE—Williams et al's Staplin 1, ne 16-8n-10e, stand 1643 ft. J. B. Witt O&G Co.'s Kutchem 1, 12-17s-7e, dr 1244 ft.

VALENCIA—Acme Oil Co.'s N. M.-Ariz. Land Co.'s 1, 26-6-3, stand 4741 ft. Harlan et al's Harlan 2, 5-6n-2e, stand 40 ft.

WYOMING

BIG HORN—Westland Oil, Inc., 1, 24-54-95, gas at 510 ft. Wisconsin Holdings, 5-55-97, sd 665 ft. Yellowstone Pete Co.'s 1, 7-57-97, oil show 4080 ft.

CARBON—Producers O&G Co.'s Blivens 1, 35-13-92, sd 2220 ft.

CROOK—Horth et al, se 9-56n-63w, lcn. Casper Pete. Synd., ne 29-51n-63w, lcn.

FREMONT—Texas Prod. Co.'s State 1, 36-44-96, try to circulate pipe, td 4485 ft. Producers & Refiner's 1, 33-34-92, coring at 4244 ft. Yellowstone Oil Co.'s 1, 15-38-94, dr 185 ft. Val Maghee et al, 35-33-99, dr 300 ft.

HOT SPRINGS — Midwest Refining Co.'s Weeks 8, 6-44-98, dr 4300 ft. Ohio Oil Co.'s Smith 1, 8-46-99, wait for rotary 4403 ft. Gebo Consolidated's 1, se 23-44-95, sd 1410 ft, with 150 ft oil in hole.

JOHNSON—United Oil Co., 1, 7-47-92, sd 1700 ft.

LINCOLN—Midwest Refining Co.'s Grey's River 1, 25-37-117, dr 2575 ft. Mtn. Oil Corp.'s 1, 36-25-116, dr 927 ft. Wyo. Prod. Co.'s 1, 14-24-113, set cas 583 ft, td 915 ft.

NATRONA—Cuyler Oil Co., sw 24-36n-86w, dr 1160 ft. Summit Oil Co., nw 21-33n-80w, dr 600 ft. Tarrant et al, ne¼ nw¼ sec. 25-31-82, dr 300 ft. Golden West Oil Co., 36-36-81, dr 400 ft.

NIOBRARA—West Virginia Synd., ne 7-35-62, undrr to 978 ft.

PARK—Resolute Oil Co.'s 1, 17-27-101, dr 7320 ft. Cody Pete Co.'s Danker 1, se 22-57-98, rigging up.

SWEETWATER—Vermillion Oil Co.'s 1, se 16-12-99, stand with 10-inch cem 2650 ft.

UINTA—Park City O&G Co., nw 6-51-113, run cas, td 1200 ft.

WESTON—Gose Synd.'s 1, 28-47-65, stand-

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ing. Updike et al's Fiddler Creek 1, 11-45-64, sd 1200 ft. Le Faivre Oil Synd., se 29-45-68, spd.

SOUTH CALIFORNIA

ATHENS—McKeen Oil Co.'s No. 1, rig.

CORONA—Western Gulf's Abacherli 1, rig sd.

COMPTON—Tenacity Oil Co.'s Del Amo 1, swabbed water and small amount oil, td 8575 ft, pulling tubnig to locate water.

FULLERTON—Standard's Bastanchury 1, dr shale 7050 ft.

HERMOSA—California Ventura Oil Co.'s Holston 1, co after production test, td 3390 ft; Sadler 1, rig.

LA HABRA—Union's Sansinena 11, dr oil sand and shale 4810 ft.

LOS ANGELES—Fred Hammer's Alhambra 1, rigging up.

MONTEREY PARK—Celito Oil Co.'s Jepson 1, co 4450 ft, td 5277 ft.

NEWHALL—Consolidated Oil Co.'s Hammond 1, co 2190 ft. Dudley-Newhall Synd.'s No. 1, dr hard sand 1538 ft. M. K. T. Oil Co.'s Farrier 1, dr hard sand and shale 500 ft. National Securities Co.'s Seeple 1, dr shale 1655 ft. Southern California Drilling Co.'s Needham 4, dr gray sand 2655 ft.

NEWPORT—Standard's Irvine 1, dr shale 2070 ft.

PLAYA DEL REY—West Port Pet. Co.'s No. 1, dr shale and streaks gray sand 3088 ft. Olympic Oil and Realty Co.'s No. 1, dr shale 2990 ft.

PUENTE HILLS—Arden Oil Co.'s Bidart-Rowland 1, running 8¼-inch cas to test oil sand found below 2830 ft, td 2895 ft. Rio Hondo Pet. Co.'s Rowland 1, bailing oil, td 3452 ft. Western Gulf's Diamond Bar 1, dr hard sand 6658 ft.

SAN FERNANDO—Shell's Andrews 1-1, dr sand and shale 4950 ft.

SANTA FE SPRINGS — L. S. Hartman's Campos 1, sd 4315 ft. Union's Orchardale 1, dr brown shale 4760 ft.

SAN JUAN CAPISTRANO—Okay No. 2's Foster 2, dr gray sand 4430 ft.

WILMINGTON—Rio Grande's Watson 1, fsh for drill pipe, td 6297 ft.

NORTH CALIFORNIA

Completions

EL TORO—		
Shell's Fithian 1, 18-4-25	*	4390
McKITTRICK—		
Ohio's M. M. 1, 32-20-22	*	7362
ROSEDALE—		
Elmer Oil Co.'s Houghton 1-A, 33-29-26	*	5226
MONTEREY COUNTY—		
Union's Paige 1, 8-22-8	*	3215

KERN COUNTY

ANTELOPE VALLEY—Meridian Oil Co.'s No. 1, 11-9-15, dr shale 3180 ft.

BELRIDGE—Belridge Oil Co.'s Fee 15, 26-27-20, sdtr iron 5408 ft. General Pet.'s Barr 1, 30-28-21, sp. Ohio's Blomer 1, 36-27-20, lcn. Richfield's Belridge 1, 22-27-20, sr 4790 ft. Rio Grande's Garcia 1, 18-28-22, m 2800 ft, td 3680 ft. K. C. Wallace's No. 1, 32-29-21, dr shale 3689 ft.

BUENA VISTA—Federal Drilling Co.'s No. 1, 20-21-24, sr 765 ft.

BUTTONWILLOW — Nordon Oil Corp.'s Salisbury 1-A, fsh for drill pipe, td 5065 ft.

DEVILS DEN—Standard's Alferitz 1, 14-25-18, rig completed.

EDISON—Petroleum Securities Co.'s Johnson-Moss 1, 14-29-29, dr hard sand 2700 ft.

EL TEJON—J. J. Ritchie's No. 1, 33-11-19, dr hard sand 4040 ft.

McKITTRICK — California Oil Producers' Wisecarver 1, 30-30-22, fsh for drill pipe, td 5040 ft.

PATTIWAY—H. A. Bardeen's Ramsey 1, 10-10-23, dr gray sand 3980 ft.

SEMITROPIC—Shell's Williams 1, 17-27-23, sr 6075 ft.

SHALE HILLS—Rio-Cal Pet. Co.'s No. 1, 2-27-18, rigging up new rotary, td 1925 ft.

WEED PATCH—Shell's Porter-Day 1, 29-30-29, co 5000 ft to deepen, td 5370 ft, well flowed oil at 125-bbl rate for several days, may be new oil field.

SANTA BARBARA COUNTY

CAMPBELL'S POINT — Bolsa Chica Oil Corp.'s Permit 191-1, 24-4-9, dr shale 1930 ft.

CASMALIA—Wildcat Oil and Royalty Co.'s Donovan 1, 20-10-35, fsh 5530 ft.

GATO RIDGE — Barnsdall's Tegnazzini 1, 9-8-32, dr shale 3980 ft.

GOLETA—General Pet.'s More 3, dr shale 1950 ft. George W. Johnson's Duncan 1, rigging to deepen, old hole drilled to 3970 ft.

LOMPOC—Prairie's Shyvers 1, 11-7-35, dr gray sand 5433 ft.

LOS ALAMOS—N. S. Wilson's No. 1, 2-7-33, rigging up rotary.

NAPLES—J. H. Cochran's No. 1, 7-4-29, dr shale 3455 ft.

ORELLA—General Pet.'s Erburu 8, 32-5-30, dr shell 1250 ft; Erburu 9, lcn; Erburu 10, lcn.

POINT CONCEPCION—Standard's Gerber 1, dr gray sand 6186 ft. Universal Consolidated's Concepcion 1, 30-5-34, dr gray sand 4875 ft.

PURISIMA — Vaqueros-Major Oil Co.'s Union Annex 2, 6-7-33, bailing oil and water, td 2995 ft; Union Annex 3, 6-7-33, lcn.

SANTA MARIA—O. C. Fields Gasoline Co.'s Norswing 1, 8-9-33, dr gray sand 5290 ft; Bradley 1, 8-9-33, pulling 4¾-in cas, td 5267 ft. Western Gulf's Bradley 1, 5-9-33, dr shale 3115 ft.

VENTURA COUNTY

HOOPER CANLON—Rio Grande's Lankershim 1, 13-4-18, co 1820 ft. George H. Hadley's No. 1, 13-4-9, sr 900 ft.

LOCKWOOD VALLEY—Lockwood Valley Oil Co.'s No. 1, 32-8-21, rigging up.

PIRU—A. N. Macrate's Torrey-Eureka 1, 32-4-18, rigging up rotary.

RINCON—Chanslor-Canfield Midway Oil Co.'s Hobson A-2, 23-3-24, will deepen from 7480 ft. after producing oil on compressor.

SANTA MONICA MOUNTAINS—Olympic Corp.'s Calabasas 1, 18-1-17, fsh dor drill pipe.

SANTA PAULA — California Republic Pet. Corp.'s No. 1, Chimes-Darlings 1, rigging up rotary. George C. Thompson's No. 1, 15-4-21, dr shale 2075 ft.

SESPE — Superior's Kirtlan 1, 15-4-21, dr hard sand 1170 ft.

SOUTH MOUNTAIN — Ring Pet. Corp.'s Converse 1, rigging to deepen from 4910 ft.

VENTURA—Prairie's Sexton 1, 30-3-22, fsh for drill pipe 7435 ft.

MISCELLANEOUS

FRESNO COUNTY—Ohio's Welch-Brix 1, 8-21-15, dr 4565 ft. Associated's Mitchell 1, lcn.

KINGS COUNTY—Friend & Fiske's No. 1, 11-23-19, dr shale 300 ft.

MENDOCINO COUNTY—Twin State Oil Co.'s Soldani 1, 14-12-17, dr shale 4536 ft.

MONTEREY COUNTY — Standard's Piedmont 1, 23-22-7, dr shale 5475 ft.

SAN LUIS OBISPO COUNTY—C. J. Schilling's Potter 1, 1-29-12, dr shale 215 ft. Kent & McDonald's No. 1, 3-32-22, dr shale 1328 ft. Paso Robles Synd.'s Emerick 1, 34-27-11, running oil string to test, td 3915 ft. Pismo Dome Oil Co.'s Pricco 2-A, 5-31-13, dr shale 2900 ft. Texas Pacific Coal and Oil Co.'s No. 1, dr shale 4115 ft.

TULARE COUNTY — Big Four Drilling Co.'s No. 1, 29-23-27, pulling 4¼-in cas, td 4330 ft. Ford Alexander's No. 1, 34-22-27, co to test, td 1000 ft. Campbell Oil Co.'s No. 1, 22-22-27, dr gray sand 475 ft. Hagerty and Caine's No. 1, 7-23-28, dr shale 760 ft. Jennings Synd.'s McMasters 1, 8-23-28, dr 300 ft. Kettleman East Side Trust's No. 1, 21-22-27, dr 150 ft. Paul M. Lewis' No. 1, 15-22-27, 10¾-in cas cmt 685 ft. Mills & Wilson's No. 1, 35-22-27, will test on pump td 915 ft. No Name Oil Co.'s No. 1, 2-23-27, rig. Rayatt Oil Co.'s Hinshaw 1, 34-22-17, testing on pump, td 770 ft. Terra Bella Drilling Co.'s Rusling 1, 34-22-27, pumping water, td 925 ft. Terra Bella Oil Co.'s Gardiner 1, 35-22-27, pumping oil and water 918 ft. Turk & Campbell's Nevins 1, 34-22-27, dr shale 700 ft. United Kern Pet. Co.'s No. 1, 34-22-27, dr clay 550 ft. Wells & Armstrong's No. 1, 10-22-27, dr shale 200 ft. Western Oil & Exploration's Gardiner 1, 35-22-27, trying to produce, td 1022 ft; Porch 1, 21-22-27, rig. Roy White's No. 1, 8-23-26, dr shale 4430 ft.

YOLO COUNTY—George F. Getty's Guinda 1, 23-12-3, dr shale 1840 ft.

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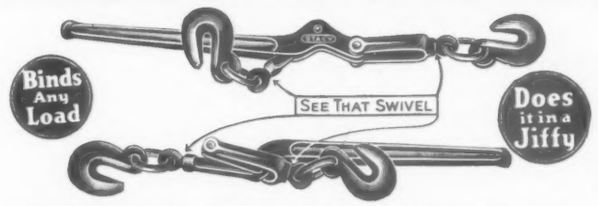

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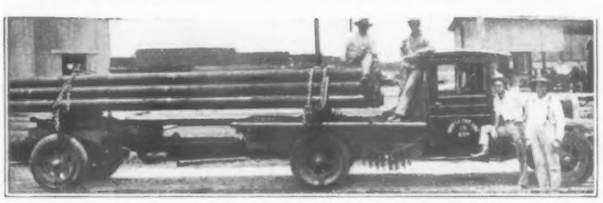

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» » LETTERS « «

"DUMPING WEST INDIES GASOLINE"

In the interests of accuracy we should like to call your attention to an erroneous statement in your issue of September 5, and which you will no doubt wish to correct, as it bears upon a rather important question.

On page 39 under the heading of "Table 6—Imports and Exports" appears the following comment:

> "The fact that refined oil imports have shown an appreciable gain over last year constitutes an unfavorable factor. This figure represents principally gasoline imported from the Dutch West Indies, which is being dumped on the Atlantic Seaboard at prices considerably below United States official quotations. This is a bad situation and has also helped to undermine the industry's price structure. Continuation of this practice must eventually result in a tariff on gasoline. On the whole the import and export situation shows a balance in favor of the American petroleum industry, since exports exceed imports by a total of 3,001,000 barrels."

This figure of 3,001,000, as you will agree, is misquoted and really has nothing to do with the excess of exports over imports but actually represents the increased *exports* during the first seven months of 1930 over the *exports* for the corresponding period last year. This, of course, is a case of picking up the wrong figure, and is an easy error to make.

As to the article itself, however, your comments give impetus to one or two erroneous impressions which have already been given some circulation. This company, among others, brings some outside gasoline in to one of its marketing areas in exchange for gasoline we are exporting from other U. S. areas and the article therefore touches upon a phase of our trade.

First: as to the "dumping" of imported gasoline on the Atlantic Seaboard; the policy of our own Company is to sell at regular market prices and is opposed to the "dumping" of any product. We are not authorized to speak for others, but our knowledge a practice of "dumping" does not exist in fact. Furthermore, we believe there are adequate Federal regulations to prevent this very thing.

Second: as to the importing of gasoline creating a "bad situation" so far as the domestic market is concerned; from the figures shown in your tabulations the total refined oil exports so far this year have exceeded the imports by 55,966,000 barrels and the over-exportation last year was an even larger figure. It seems clear that we cannot consider our imports without taking into account our exports. Looking at the U. S. refined oil trade balance we are certainly exporters by more than three to one. It follows that if U. S. Marketers should reduce the imports they would simply cut down their exports to the same extent and our stocks and supplies in this country would remain unaffected.

Third: *your* notes state that the increased imports of refined oil "represents principally gasoline imported from the Dutch West Indies". You will note, by referring to the Bureau of Mines statistics that this is not "principally gasoline" and instead is principally minor products, including wax. Of the refined oil import figures you quote, both for 1930 and 1929, less than half is gasoline, the major part being kerosene, gas oil, fuel oil and wax.

We are sure that you will wish to correct anything which might tend to becloud the many real problems in the industry.

SHELL UNION OIL CORPORATION,
By S. W. Duhig.
New York.

Mr. Duhig is right in his statement that we picked up the wrong figure in Table 6 on page 39 of our issue of September 5 ("Price Cutting Preventing Justified Market Improvement," by H. J. Struth). The figure 3,001,000 represents the total gain in crude and refined oil exports over last year. It was meant to show a balance in favor of the United States of 4,590,000 barrels, representing a gain in exports of both crude and refined oils, against a decline in imports.

This article was not meant as a direct attack upon or criticism of any one company or group of companies, but merely sets forth the facts as they appear, and points out indicated significance of increased imports of gasoline at this time.

This article proposed to show that imports of gasoline have shown a material gain over last year and the fact it is possible to lay this gasoline down on the Atlantic Seaboard at a comparatively low figure cannot be construed otherwise than an unfavorable situation. Further analysis of refined oil imports shows that the quantity of gasoline imported during the first seven months of this year aggregated 9,898,650 barrels, against only 4,449,000 barrels during the same period of last year. Reports of the Bureau of Foreign and Domestic Commerce also show that 91 per cent of the gasoline imported during the first seven months of this year was received from the

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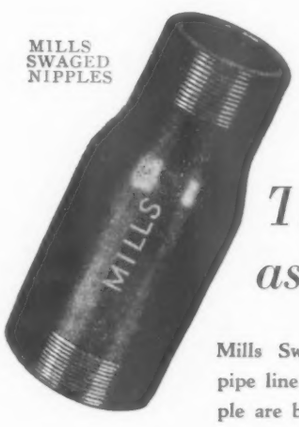

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LETTERS

Dutch West Indies. Actually, 9,077,357 barrels of gasoline imported during this period came from the Dutch West Indies.

The fact that imports of refined oils showed a gain over last year of 11,378,000 barrels, of which gain gasoline constituted 5,450,000 barrels, would hardly indicate a very favorable situation. Regardless of the industry's export situation, it is obvious that increased imports of gasoline into this country, at a time when conditions are at their worst, only serves to further complicate the unfavorable economic situation that has confronted the industry this year.

"WHY NOT STOCKS?"

I am writing my thoughts with no particular line of continuity but as they occur to me.

So much has been preached and written about over-production and all of its ills that I wish an editorial could be written showing some of the possible benefits to be derived providing the excess oil can be kept off the market until there is a demand for it.

Why can't the oil industry build up substantial reserves of oil the same as is done with the enormous blocks of copper ores, zinc ores, lead ores, and other metal ores. You probably have some idea of the number of tons of coal blocked out. Do you suppose that industries would now be using coal if they did not have a definite idea as to the amount of coal with some idea as to the future price? Do you suppose the telephone companies would be using copper wire if they figured that the copper supply would run out in a couple of years? These examples can be repeated in about every line of industry. I do not know of any industry that has reached any size that has not had an excessive supply of raw material.

The point that I wish to emphasize is that the oil companies should capitalize the fact that they can insure their customers an adequate supply of oils at a reasonable cost over a period of years due to the amount of oil in sight. Prospective customers can remodel their plants and know that they will not have to change back to coal or some other fuel in a couple of years. In other words, the more oil in sight the greater its use and more even the price. There has nothing hurt the oil industry as much as the feasts or famines that we have repeatedly had due to the scarcity or excess supplies of crude oil.

Now there is a fly in the ointment to the above arguments and it is this:

The mining industry is controlled by comparatively few companies with adequate cash to tide them over in good times or bad. Most of the copper companies could shut down for a year and not be hurt. This also applies to any number of other metal companies. But

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LETTERS

what about the average oil company or individual engaged in the oil business. It is common knowledge that there are a number of strong oil companies that can weather any industrial storm, but what about the little company or the individual? In most cases when a wild cat well is drilled by an individual it represents about all the cash that he has. If he is fortunate in opening up a field he has got to sell some of the oil to pay expenses or the cost of development. Very few individuals or companies drill a wildcat well with an idea that they will have to wait at least a couple of years before they get any return on their money. (This idea though will gradually gain a foothold during the next couple of years, but I do not want to follow this thought in this letter).

To stabilize the oil industry with an excessive supply of crude some plan will have to be worked out to take care of the wild catter that brings in a well that can't afford to shut in the well until the market is ready for his oil. If a producer of oil needs money and cannot sell his oil at the market you can rest assured that it will be sold under the market. I will venture the assertion that 10,000 barrels of oil sold under the market each day for any length of time will break the price of crude all over the United States. The same applies to a 500-barrel refinery that cannot sell its gasoline at the market but must sell for what it can get. This is all due to expanding scope of competition from one area to adjacent areas until it eventually spreads all over the country.

The remedy to the situation rests with the pipe lines and in a few cases with the larger refineries. If they could band together on some sort of a plan to give necessary relief to the small operator that brings in a wildcat well or a small refiner that must sell some of his product I believe it would go a long ways toward putting the oil industry on a firm foundation that would not be rocked each time a new oil field is discovered.

Trust this letter is of interest to you as I have never seen the idea advanced in any trade papers.

CHAS. M. COATS,
Independent Operator.
1147 N. Emporia,
Wichita, Kansas.

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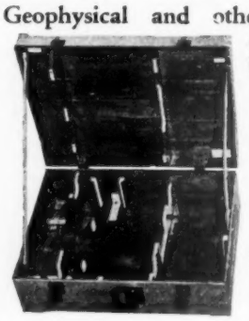
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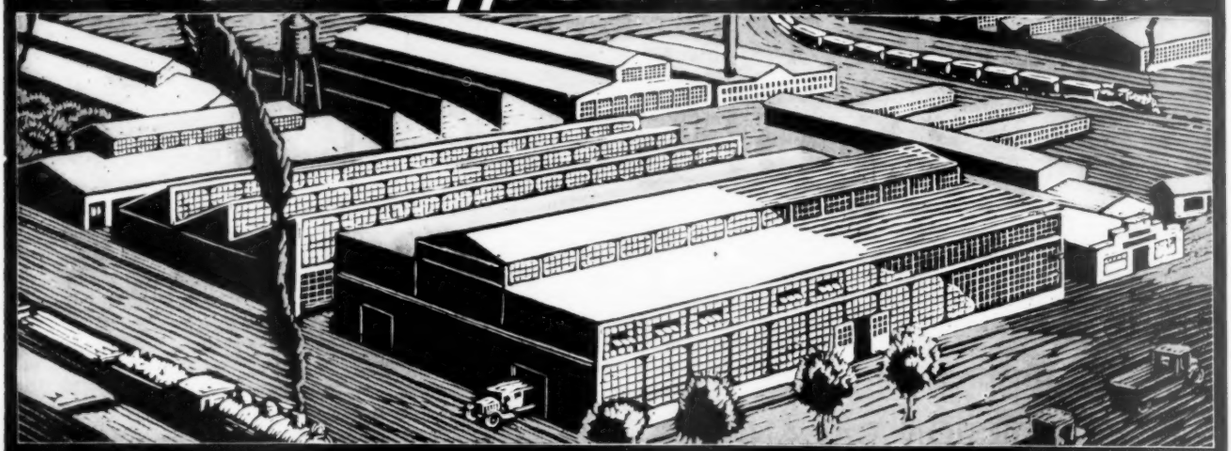

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New Equipment for the Field

Machinery - Tools - Catalogs - Books

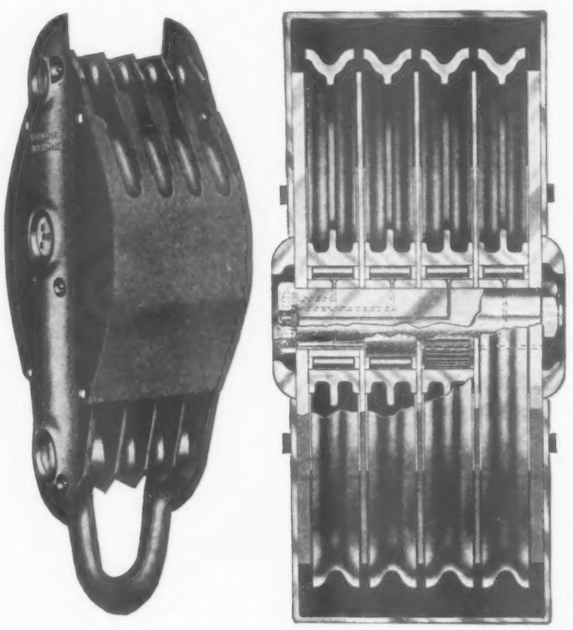
Traveling Blocks

BAASH-ROSS TOOL COMPANY

Baash-Ross Tool Company's roller bearing traveling block offers a number of new features. Its tapered construction is to provide a balance for smooth, fast running with safety. It is rigidly designed to carry heavier loads at maximum speeds.

The design of this block is such as to throw the load in the center of the sheave grooves to eliminate side friction of sheaves or slippage on the wire lines.

Each sheave is mounted and rotates on its own individual roller bearing which turns on a hardened and ground inner race. This race is keyed to a one-piece center pin. One one



Baash-Ross Traveling Block

end it is solid and has a heavy shoulder; the other end is threaded for the hexagonal retaining nut. As illustrated in the sectional view, the solid end of the pin is drilled for individual lubrication to each roller bearing. Lubrication is facilitated by the use of Alemite connections recessed in the end of the main pin.

The main center pin is braced and supported by means of half-inch steel spacer plates between each sheave, by two one-inch outer plates and by two solid steel upper and lower end pins. In order to be easily removed, the two end pins are also made with a shoulder at one end and a hexagonal nut at the other.

The upper pin extends through the spacer plates and outer plates which are separated and held rigid by steel spools between each plate. The lower pin supports the forged steel clevis which is mounted between the outer plates and the first spacer plates. The three one-piece pins and the heavy spacer and outer plates, separated and held parallel by the clevis and spacer spools are to insure rigidity and distribute load stresses uniformly over the entire block. Such a condition naturally results in the sheaves being kept in perfect alignment, which offers to reduce wear on both sheaves and roller bearings.

The outer plates are further reinforced on both sides by heavy cast steel side plates over and beyond the entire length of the block. The ends of the side plates are turned inward and the entire exposed surface rounded off with recesses for the heads and nuts of the pins. This feature provides a smooth running outside surface, facilitating fast lowering and raising with no danger of projections.

The roller bearing assembly is designed and manufactured by Baash-Ross Tool Company to withstand tremendous loads and to last. It consists of 20 chrome vanadium steel rollers mounted in a steel cage which holds the rollers parallel at all times. The rollers float free and cannot bunch up since they are held in place by means of pins and spacers in the cage. The rollers and their inner race are heat treated, hardened and ground to shape.

Steel guards are fitted over sides of the sheaves. The traveling block complies with all requirements of the industrial accident commission with a wide margin of safety. The entire sheave and bearing assembly is interchangeable with the roller-bearing hi-deck drilling crown block.

Direct Current Installation

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY

Westinghouse Electric & Manufacturing Company has developed an application of direct current to oil well drilling which offers efficiency of electric drilling plus a flexibility similar to that inherent in steam driven drilling equipment.

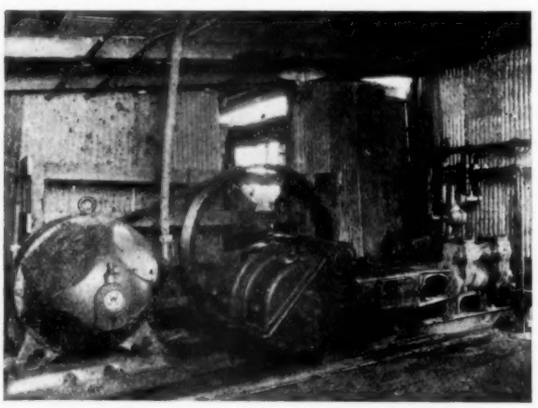
This installation, developed by the Westinghouse Electric & Manufacturing Company and designed especially for foreign use or for wildcat operation where water is scarce and where no electric power from commercial lines is available, includes two 200 horsepower, 450 revolutions per minute, four cycle, six cylinder Atlas Imperial Diesel engines, each of which drives, through a V belt drive, a 125 kilowatt direct current generator at 1200 revolutions per minute. The current thus generated is supplied to a 125 horsepower, 250 volt, 900 revolutions per minute compound-wound motor driving the mud pump and to the compound-wound drilling motor which has a dual rating of 125 horsepower, 250 volts, and 450 revolutions per minute when drawing current from only one generator, and 250 horsepower, 500 volt, 900 revolutions per minute when the two generators are operated in series. The current passes through a variable voltage control panel, and is regulated entirely by a master control on the derrick floor which actuates the resistance tubes and contacts in the control panel.

The Two units are used partly as a protection against a breakdown of the power supply; drilling can be carried on with only one generator working. While drilling ahead, the two generators are run independently, one operating the mud pump and the other the motor actuating the draw works and the rotary table. However, for purposes of pulling pipe or hoisting which require extra power, the power of the drilling motor is doubled by cutting out the mud pump motor and using the current from the two generators connected in series for operating the drilling motor.

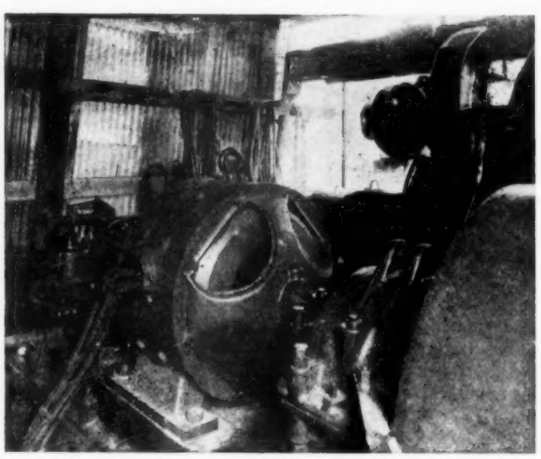
To avoid the possibility of fire, the power plant and the

variable voltage control panel are situated in a power house about 300 feet away from the rig. Twenty-six small wires run from the power house to the motors. Although the generators, switches, and Diesels in the power house are not vapor proof, both the motors are totally enclosed to avoid the ignition of gas by electric sparks.

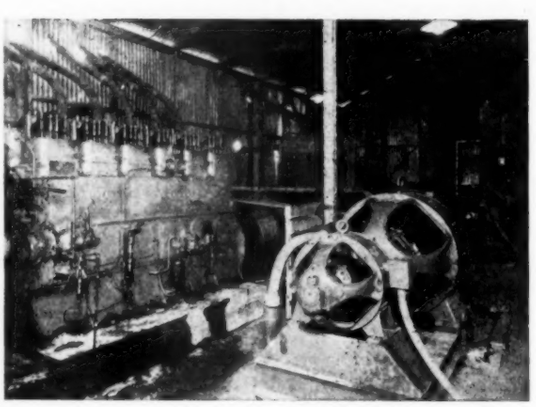
This direct current outfit offers more flexible control because the motors slow down under loads; has smooth acceleration; develops high torque at low speeds; and has high efficiency under all loads even with extremely low speeds.



Mud Pump Installation



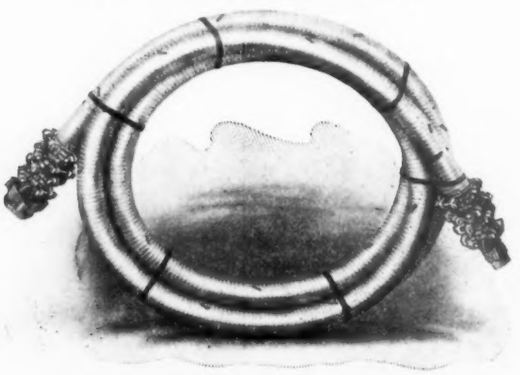
Drilling Motor



Diesels Driving Generators

"New Super" Hose

GOODALL SEMI-METALLIC HOSE & MANUFACTURING COMPANY



New Super Hose

Goodall Semi-Metallic Hose & Manufacturing Company, 165-171 West Columbia Avenue, Philadelphia, announces the "New Super," the name applied to a recently developed drilling hose. This hose, illustrated here, is patented and additional patents are pending, the manufacturers state.

It is protected from exterior wear and abuse by the "G.S.M." free flexing ball joint steel armor, and has the inner construction built up with metal members to prevent elongation. The inner tube is made of a high grade rubber for resisting wear and abrasion from sand and slush mud.

Each length of "New Super G.S.M." hose is tested to 4000 pounds per square inch in the 2½-inch size before leaving the factory when coupled with the improved "Boss Tri-Duplex" coupling.

Metal Cutting Torch

TORCHWELD EQUIPMENT COMPANY

Torchweld Equipment Company, of Chicago, announces a metal cutting torch which uses gasoline. This gasoline cutting torch unit consists of a cutting torch with four gasoline cutting tips; 25 feet of high pressure oxygen hose; 25 feet of flexible Metallic gasoline hose; two-gallon welded gasoline tank; a high pressure two gauge oxygen cutting cylinder regulator; wrenches, goggles and gloves.

Gasoline Torch

The manufacturers submit as major advantages of this new metal cutting torch the following. Greater economy because of lower fuel gas cost; simplicity of design; greater safety because of the elimination of "flash backs" and torch flashing; and a reduction in the amount of equipment and supplies necessary for operation.

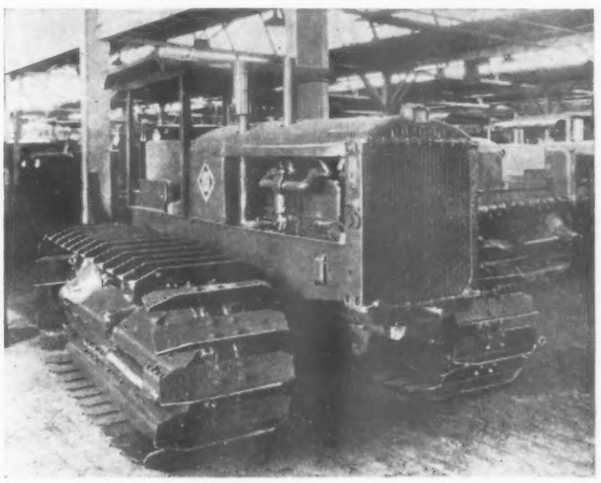
Detailed information on this new equipment will be furnished upon request to Torchweld Equipment Company, Chicago, Department 0-7.

NEW EQUIPMENT FOR THE FIELD

Allis-Chalmers "35" Tractor

ALLIS-CHALMERS MANUFACTURING COMPANY

Allis--Chalmers Manufacturing Company, Milwaukee, Wisconsin, announces new track equipment for the Allis-Chalmers "35" tractor; equipment which includes the wide angle track shoes shown in the accompanying illustration. These shoes are built in 18-inch, 24-inch and 28-inch widths



Allis-Chalmers Tractor

and provide extra traction for work in loose soil, swamps, or on steep hillsides.

In addition to the wide angle tracks, the Monarch "35" can be equipped with standard tracks built in extra widths.

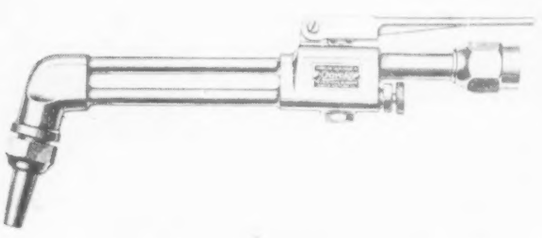
There is also a wide tread Monarch "35" now available in which the tracks are built further apart. This arrangement gives the tractor greater stability on steep hillsides or for use with such equipment as side boom hoists or cranes.

Blowpipe Accessories

OXWELD ACETYLENE COMPANY

Oxweld Acetylene Company, 30 East 42 Street, New York City has recently introduced new accessories for the type W-17 welding blowpipe, introduced during the past winter, which now make this blowpipe adaptable to most any type of work which may be required of an oxy-acetylene blowpipe.

The type CW-17 cutting attachment is to enable the blowpipe to do a reasonably wide range of cutting work. It will be noted that a long handle is used for operating the cutting oxygen valve. When this handle is not in use, it can be pulled forward parallel to the tubes so that the whole attachment may be carried around in the operator's pocket. The attachment has the same style stem lock nut as the welding head for the type W-17 blowpipe. The injector for the heating flames is contained in the attachment, just as the injectors are contained in the welding heads. At the rear of the attachment near the bottom is an adjusting screw, so that the oxygen for the heating flames may be regulated by the operator's thumb and forefinger while the blowpipe is in operation.



Oxweld C W-17 Cutting Attachment

Oxweld W-17 Blowpipe Handle

Another accessory which has just been introduced for use with the W-17 welding blowpipe is the W-17 to W-15 adaptor which makes it possible to use any of the welding heads available for the Oxweld W-15 sheet metal welding blowpipe with the type W-17 welding blowpipe handle. The end of the adaptor which fits onto the W-17 blowpipe handle is similar to the rear end of a W-17 welding head. The adaptor contains passages for the oxygen and acetylene which fit tightly against the passages in the blowpipe handle. The other end of the adaptor is exactly the same as the end of a W-15 sheet metal blowpipe handle, so that no more adjustment is required in attaching the W-15 welding head to the adaptor than to a W-15 handle.

Trackson Crawler

THE TRACKSON COMPANY

The Trackson Company, Milwaukee, has developed a new Model F Trackson crawler for the new Fordson, which converts the latter into a powerful, all-steel, 2-ton crawler tractor.

This unit offers advantages over wheel tractors, such as sure footing and positive traction in ground conditions, additional weight for bearing down on hard pulls, increased power, shorter turning radius, and greater flexibility. Weight and balance and a track area of 1100 square inches contact with the ground to enable it to hug the ground and develop tremendous pulling power.

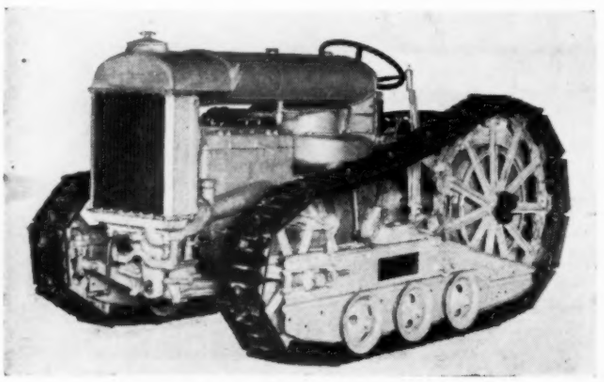
A leading feature is the Trackson-Fordson's ability to work equally well in soft, loose soil conditions, mud or sand, swamp land or snow. Its light ground pressure, less per square inch than the pressure exerted by a man's footstep, is designed to allow it to travel lightly over soft surfaces where wheel tractors or teams would mire, and its ground-gripping crawler tracks to give it a firm foothold where the way is steep.

These Trackson crawlers may be quickly installed on the

NEW EQUIPMENT FOR THE FIELD

Fordson by any mechanic. It is a matter of removing the wheels and attaching the crawler, with no special fitting, drilling or machine work required. No differential changes are necessary and there are no intricate parts to complicate the steering or operation of the tractor.

These new crawlers are simple in design, are built entirely of steel and have few working parts. The tracks are made of heavy electric alloy steel castings, heat-



Model F Trackson Crawler

treated and hardened. The sprockets are made of special alloy steel. Positive protection against sand and dust prolongs the life of all bearings used in Trackson crawlers and the patented truck wheel bearings which carry the entire weight of the tractor are provided with a special oil reservoir and are of ring-oiling design, to make lubrication certain and easy.

Flexibility is an outstanding advantage of the Model F Trackson-Fordson. The unit retains the regular Fordson speeds and Fordson clearance.

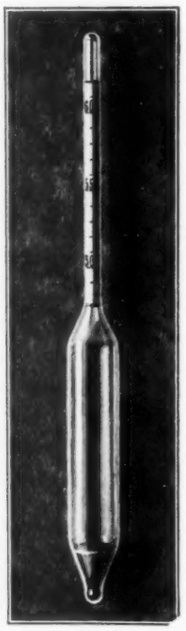
"Petroleum in Roumania," by Mihail Pizanty, is a very exact and complete study of the oil industry in Roumania, involving a series of subjects not usually found in booklets of such nature. Questions concerning the generalization of the oil situation are discussed non-technically so that the average reader concerned with the Roumanian industry can get a comprehensive view of the existing conditions without having to make a detailed study of each particular case.

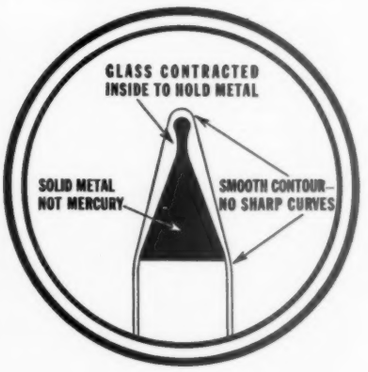
Application of a flexibility of style has established a keynote of interest for the general reader who wants graphic presentation. Charts, comparative tables, graphs, diagrams and pictures sufficiently illustrate the material to impress very firmly upon the mind of the reader the full significance and intent of the author in each of his discussions, thereby eliminating the necessity for long and tedious explanations.

Development of the material includes complete descriptions of all fields with brief historical sketches concerning exploration and exploitation and actual operation of such fields, expenses of operating, transportation and marketing and companies operating in the oil industry in Roumania. Relation of production, refining, distribution and consumption clearly outline the importance of juridical co-operation in the execution of all activities pertaining to the various phases of this business. A final survey of the study gives the impression of completeness and brevity that characterizes the efforts of the author throughout the discussion.

Nu-Typ Tag Hydrometer

C. J. TAGLIABUE MANUFACTURING COMPANY





C. J. Tagliabue Manufacturing Company, Brooklyn, New York, announces the Nu-Typ TAG hydrometer, which has a streamline tip to make for simplicity and ruggedness. It has no corners to collect dirt and permits easier cleaning.

A low melting point alloy in a solid piece has been firmly fastened in the bottom of the instrument to prevent coming loose; even the hydrometer is inverted. This replaces the customary mercury ballast.

The two accompanying illustrations show graphically the structural features of the Nu-Typ TAG hydrometer.

Detailed information may be had on this new hydrometer upon request to the manufacturers.

Meters

BAILEY METER COMPANY

Bailey Meter Company is exhibiting a boiler control panel on which is mounted a Bailey boiler meter, a Bailey fluid meter, a Bailey Multi-Pointer gage and a long distance liquid level indicator. This steel plate panel board stands approximately eight feet high. The boiler meter is designed to indicate, record and integrate the steam flow from a boiler, to record air flow supplied for combustion and to record flue gas temperature of gases as they leave the heating surfaces of the boiler.

The fluid meter is designed to measure steam to a turbine, or to measure water to a boiler. The multi-pointer draft gage is used to indicate the secondary factors in the control of a boiler unit.

Another feature of the exhibit is a Bailey electrically operated fluid meter for the measurement of oil, water, steam or gas.

Pittsburgh Steel Products Company announces the removal of its Tulsa office from the Atlas Life Building to Suite 1405 Philtower Building. S. E. Elder is manager of this office.

M-S-A *Combination* HOSE MASK

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Pittsburgh, Pennsylvania, U. S. A.
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In making renewals or repairs, parts identical with those furnished by the manufacturer under the original approval shall be maintained.
CAUTION
1. A life line shall be attached securely to the safety harness and held by two attendants when the mask is used for entering oil tanks, sewers and similar confined spaces, so that the wearer can be removed in case of accident or emergency.
2. Persons wearing hose masks should not enter pla where the hose or life line may be entangled and fouled. Atte ants must help in keeping these clear.
3. The hose mask will give respiratory protection in at pheres containing hydrocyanic acid gas, but it is not safe counter high concentrations because the gas is absorbed thr the unprotected skin of the body and in that manner will pro duce poisoning.
4. The blower must be operated continuously during use of the mask.

This M-S-A Fresh Air Mask Officially Approved by both the United States Bureau of Mines and the American Gas Association.

DOUBLE CHECKED *for the Protection of Your Workmen!*

When you specify M-S-A *Combination* HOSE MASKS for men in your employ who must enter and work in High Concentrations of Gas or Oxygen Deficient Atmospheres, you have the Assurance that your workmen are provided with the Utmost in Protection . . . with Masks that meet the Rigid Specifications of These Recognized Authorities. Note particularly that this mask is approved by the Government for safe use with as much as 150 feet of hose.

See this Mask and other M-S-A Protective Equipment at the Oil Show in Booth No. 34, Scientific and Technical Building.

Hundreds of Public Utility Organizations, Oil and Chemical Companies as well as Municipal Authorities, generally, have standardized on M-S-A Hose Masks for their employees who must enter and work in dangerous atmospheres.

Send today for complete information on the various types of M-S-A Hose Masks which we manufacture. Use the coupon for convenience.

Mine Safety Appliances Co.

Braddock, Thomas and Meade Sts., Pittsburgh, Pa.

"Everything for Mine and Industrial Safety"

MINE SAFETY APPLIANCES CO.
PITTSBURGH, PENNA.

Without obligation, please send me copy of Bulletin No. 171 on M-S-A HOSE MASKS.

My Name _____

Position _____

Company _____

Address _____

_____

Manufacturers and Supply Dealers Notes

Champion & Barber, Inc., Los Angeles, has been recently appointed exclusive distributors in California, Utah, Nevada and Arizona, for Naylor Pipe Company, Chicago.

Frank Champion, Jr., states that well assorted stocks of Naylor pipe which can be furnished with pipe ends of standard weight and thickness, beveled for welding joints in the field, grooved for victaulic couplings, or plain for the dresser type bolted couplings will be carried in Los Angeles, ready for immediate shipment to points in this territory.

Bob Ames has been appointed by Champion & Barber, Inc., as petroleum engineer and sales representative to further the sale of Naylor pipe in this territory.

Organization of Oil Field Engineering Corporation in Fort Worth by Jon R. Long and associates gives them a modern manufacturing plant equipped with the latest in machinery and tools. The new plant also houses the offices of Petroleum Equipment Company, of which Mr. Long is general manager. Both companies manufacture and distribute oil and gas production equipment.

JON R. LONG

Brown Instrument Company, Philadelphia, has recently issued a new catalog featuring Brown indicating, recording and automatic control pyrometers. This catalog contains 104 pages with 141 illustrations, many of which are in two or more colors. A comprehensive resume of the theory and practice of applied pyrometry is presented, together with descriptions and illustrations of all instruments, thermocouples, protecting tubes and other required equipment.

This company has also issued a 32-page booklet titled "The Era of Automatic Control." This booklet carries, with illustrations, a brief outline of control instruments and methods in the various instruments, and a page in picture is devoted to such subjects as controlling temperatures in steel treating, in oil refining, in steel mills, in blast furnaces, in chemical plants and in die casting. Controlling, flow, liquid level and pressure is discussed as are types of controls, and various other phases of controls as found from research by this company.

A new and revised ownership map of Lea County, New Mexico, has been prepared by Sears Map and Blue Print Company of Amarillo, Texas. This map has been prepared under the direction of C. B. Sears, president of the company, who covered the entire area in compiling the data.

A branch office and warehouse has been located in Tulsa by Bartlesville Supply Company of St. Louis and J. O. Buchta will be in charge. The Tulsa branch is located at 400 West First Street, and a complete stock of oil field products manufactured by the Bartlesville Supply Company will be carried on hand. The company has a branch at Amarillo, Texas.

Regan Forge & Engineering Company, San Pedro, California, has issued a new catalog which will be forwarded to all those interested in obtaining the latest literature featuring the various Regan products. It is profusely illustrated and graphically presents the products, with an outline of the leading features. This catalog consists of a bound volume of about 10 complete bulletins covering the company's crown blocks, traveling blocks and control equipment.

Various suggestions are given, such as the method of adapting an old well to flange control equipment, the running of tubing while the well is under pressure, various methods of attaching flange and screw valves to the control equipment and a complete progressive set of illustrations showing the method of suspending casing, using control head equipment. Several innovations in tubing heads are shown in the tubing head section. The Regan casing gas controller is also illustrated as well as detailed flange data, weights, sizes and other information.

Westinghouse Electric & Manufacturing Company has issued two new publications pertaining to mechanical power transmission equipment for general industrial use.

"Westinghouse-Nuttall Flexible Couplings," is the subject of Circular 1887 which contains complete descriptions, capacities, dimensions and weights of the different types. Illustrations include typical applications of each type.

Circular 1891 entitled, "Westinghouse-Nuttall Speed Reducers Types SVR, DVR and DVRA," contains full information about the application, construction, ratings and dimensions of these vertical type units for single and double reductions and right-angle drives. Numerous existing applications of the different types are illustrated.

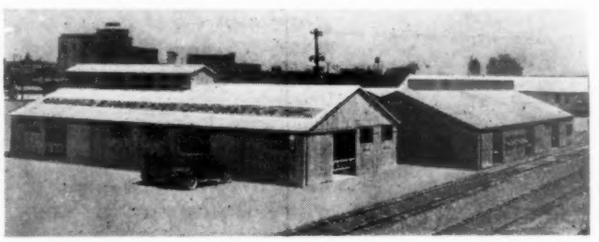
Copies of these publications are available upon request from any Westinghouse sales office or from the company's advertising department at East Pittsburgh, Pennsylvania.

Landis Machine Company of Canada, Ltd., Welland, Ontario, has changed its name to Canadian Landis Machine Company, Ltd. J. N. Stickell is superintendent of the company and C. H. Gilland is special sales representative. Landis threading equipment is sold throughout the Dominion of Canada by Canadian Fairbanks Morse Company.

CORRECTION

Through an error the advertisement of B. K. Appleman in the September 26 issue of The OIL WEEKLY carried illustrations of the Christian bit of Texas Iron Works, Houston, rather than illustrations of the Appleman gumbo bit.

It was inadvertently stated in the September 12 issue of THE OIL WEEKLY on Page 89 that Atlantic Pipe line Company's extension from the Hendrick field, in West Texas, was Victaulic coupled. This should have stated Dillon couplings were used alternately with welded joints.



Oilfield Engineering Corporation's warehouse, Fort Worth, Texas

Assurance of Safety and Economy

GIVEN BY LEADING ENGINEERS OF THE INDUSTRY TODAY IS THE ANSWER

WHY

DANCO High Pressure Fittings Are Being Used By Them Where High Oil and Gas Pressures Are Encountered

It's the operators who know good STEEL, good DESIGN and good WORKMANSHIP who are rapidly coming to standardize on DANCO Fittings.

DANCO High Pressure Fittings

A complete line of DANCO High Pressure forged steel fittings are on display at all times. DANCO fittings are rapidly winning the favor of operators throughout the world. The high grade material from which these fittings are made, plus the design and construction, are making DANCO fittings stand the "gaff" of high pressures encountered today.

DANCO 10,000-lb. test fittings being made from solid steel forgings seen in the forground.

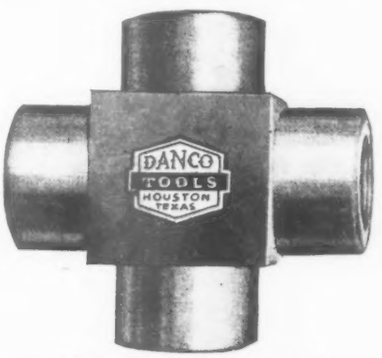
MANUFACTURED FITTINGS

CROSSES
TEES
ELLS
SWAGED NIPPLES
BULL PLUGS
BUSHINGS
FLOW CHOKERS
NIPPLES—SX—XX
FLANGE UNIONS

Made in all sizes, male and female.

TOOLS

Outside Casing Cutter
Inside Casing Cutter



DANCO high pressure forged steel cross.

STANDARD DAY-A-NITE CO.

1212 Nance Street **HOUSTON, TEXAS**

SQUEAKS FROM THE BULL WHEEL

The following story was told by John D. Rockefeller, Sr., between holes in a golf match with Edwin Hill, who describes his experiences with the world's most interesting nonogenarian in Forbes Magazine:

"I was going north one time," says Mr. Rockefeller, "and on the train was a woman who was pestering the conductor with questions. She was a nuisance, and the conductor got kind of disgusted after hearing her rattle along interminably. Finally she asked him: 'Conductor, why is it that you wave your hand to the engineer when you want him to start?' He said, 'Madam, when I wave my hand to the engineer that way, it means get the hell out of here.' As the conductor went back through the car, a man said to him 'You shouldn't have spoken that way to that woman. She's the wife of one of the directors of this road.' The conductor was worried, and said he guessed he'd better go back and apologize. He appeared, and presently came back with his face pretty red. 'What did she say when you apologized?' asked the man who had informed him of the lady's status. 'She didn't say anything,' replied the conductor, 'she just waved her hand.'"

"Say, mon, when is Annie McTavish goin' to let you marry her?"

"It's verra uncertain, mon. Some fool gave her a big box a letter paper with her name printed on it. She won't get married 'till it's used up, an' she writes very few letters account of the postage."

Imagine the embarrassment of the St. Paul newsboy who opened the wrong door in the depot waiting room and yelled, "Extra! Paper!"

Here's one on the absent minded Flapper who rode 10 miles into the city to have a tooth extracted and when the dentist told her he was out of gas got out of the chair and walked home.

Schoolboy (translating): "She slipped and fell into the river. Her husband, horror-stricken, rushed to the bank—"

Teacher (interposing): "What did he run to the bank for?"

Boy: "To get the insurance money."

"Eric, dear, don't go out too far in the water."

"But look, mother, Daddy's out a long way."

"I know dear, but father has his life insured."

"My wife says if I don't chuck golf she'll leave me."

"Hard luck, old chap."

"Yes—I'll miss her."

Landlady: I think you had better board elsewhere.

Collegian: Yes, I often had.

Landlady: Often had what?

Collegian: Better board elsewhere.

"Do you still run around with that blonde?"

"She's married now."

"Answer my question."

A certain society young lady from the city visited her married sister who lived on a farm in Oklahoma, which had recently developed into an oil field. The sister was suddenly taken ill. "Dear me," she bewailed, "what shall I do with dinner to prepare for all those oil drillers?"

"Never mind," consoled the city sister. "You line down and I will take care of it."

At dinner each hungry man was served with: Two heart-shaped bread and butter sandwiches tied with pink ribbon, one chicken patty, two sweet pickles, one mold of ice cream with lady finger, one demi-tasse, after dinner mints.—*Pure Oil News.*

Little John was interested in the rafters on the sleeping porch. "What are those round things Daddy?" he asked.

"They are knot-holes, son."

"Well, if they're not holes, what are they, Daddy?"

Junior Partner (to pretty stenographer): "Are you doing anything on Sunday evening, Miss Dale?"

Stenographer (hopefully): "No, not a thing."

"Then try to be at the office earlier on Monday morning, will you?"

Grandma was giving her little son a lesson in anatomy. "Well, Jackie," she asked, where are your tonsils?" "In my throat," replied the child. "That is very good. And where is your stomach?" "In my pants," he answered correctly.

A teacher received from the mother one of her pupils the following excuse for his absence: "Dere mum: please eggscuse Monty, he didn't have but one pair of pants an, I kep him home to wash thum and Mrs. Boyles goat cum and et them orf the line and that awt to be eggscuse inuff goodness nose. With respeck—Mrs. B."

"Did McPherson buy the filling station?"

"Guess he did—the free air sign is down."

She: "Did you know that the water has rotten away the post in front of our house?"

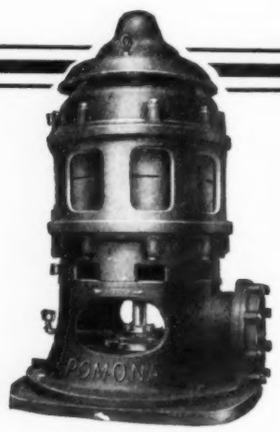
He: "Mercy goodness, and the tectotalers put that stuff in their stomachs!"

The Lad—"Hey!"

The Lass—"My name ain't 'Hay,' an' don't try to make me while the sun shines."

"Well, Woodrow," said Moses, "they don't seem to be treating your Fourteen Points very kindly below."

"Not so well," replied Woodrow, "but take a look at what they are doing to your Ten Commandments."



Water Lubrication, Sand-Proof Bearings, Non-Rusting Shaft in bowls. Special bearings in heads

PUMP WITH POMONA

Oceans of pure, undefiled water delivered at a minimum cost is the result of pumping with Pomonas. They maintain highest efficiency,—frequently 20% higher, because they are properly designed and constructed. Put a Pomona on your well and your water worries are over.

Southern Engine & Pump Company
Houston, Texas

AT BOOTH No. 63 TEXAS BUILDING

Model "H" — American "Chief" Heater for Kerosene and distillate burning only. In sizes of 250, 500 and 1000 gallons.

SEE THE COMPLETE LINE OF

AMERICAN ENAMEL-PITCH ASPHALT HEATERS

—AND NECESSARY EQUIPMENT FOR APPLICATION

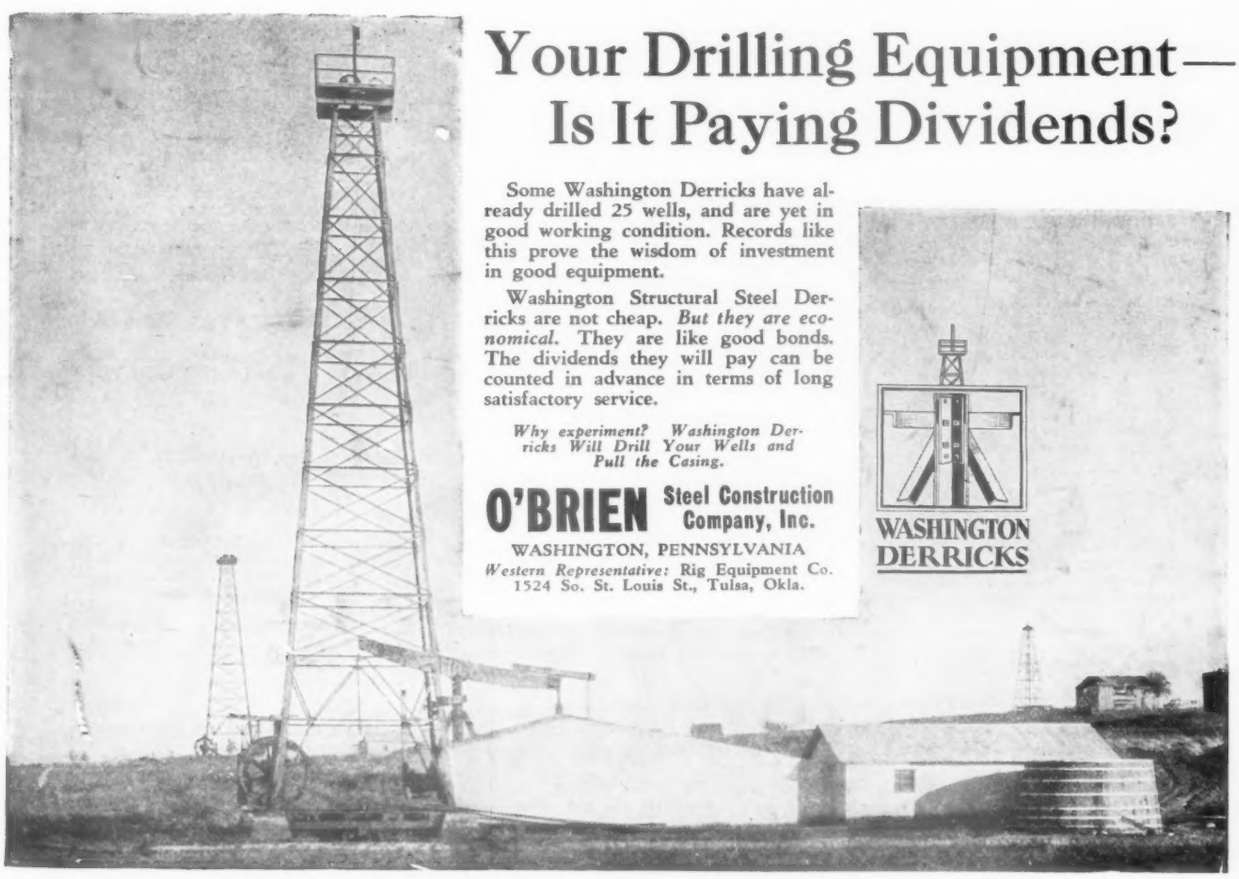
IN PIPE LINE WORK

CATALOG AND DETAILED INFORMATION ON REQUEST

STOCKS FOR PROMPT SHIPMENT

Investigate our pipe bending shields, and torches on display.

AMERICAN
STEEL WORKS
1211 W. 27th ST., KANSAS CITY, MO.



Your Drilling Equipment— Is It Paying Dividends?

Some Washington Derricks have already drilled 25 wells, and are yet in good working condition. Records like this prove the wisdom of investment in good equipment.

Washington Structural Steel Derricks are not cheap. *But they are economical.* They are like good bonds. The dividends they will pay can be counted in advance in terms of long satisfactory service.

Why experiment? Washington Derricks Will Drill Your Wells and Pull the Casing.

O'BRIEN Steel Construction Company, Inc.
WASHINGTON, PENNSYLVANIA
Western Representative: Rig Equipment Co. 1524 So. St. Louis St., Tulsa, Okla.

WASHINGTON DERRICKS

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I Wonder Why
I Hear About Harrisburg Couplings
Everywhere?

"Big pipe manufacturers standardize on Harrisburg Couplings.

"Progressive Producers throughout the oil fields insist on Harrisburg.

"Everywhere I go it's Harrisburg.

"Couplings as popular as they are *must* be good!"

HARRISBURG PIPE & PIPE BENDING CO.
Harrisburg, Pa.

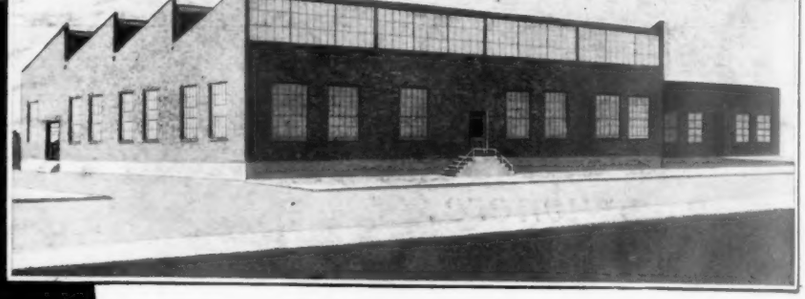
Fully Equipped with Our Own Open Hearth Furnaces, Rolling Mills and Forge Shops

Distributors:
Harrisburg Pipe & Pipe Bending Co. of Texas, Inc., Houston, Texas
Harrisburg Supply Co., Tulsa, Okla.

HARRISBURG

Forged Seamless Steel Couplings

No. 3 Now IN OPERATION



Our Midland (Texas) Service Plant

To better serve operators, contractors and drillers in the West Texas Territory, Hughes Tool Company has established a large service plant in Midland, Texas.

This plant is modern in every respect and equipped to give prompt ervice on the following:

—Bucking up Hughes Tool Joints on Drill Pipe.
—Re-working Hughes Tool Joints.
—Re-working Hughes Rock Bit Heads.
—Re-building, re-cutting and re-bushing Hughes Rock Bit Cones.
—Re-working and re-bushing Hughes Drill Collars.
—Complete re-working of Hughes Valves.
—Re-working Hughes Core Bits (Cutter heads re-worked to proper standard).

This new plant gives further evidence of the Hughes Tool Company's desire to give maximum service to the petroleum industry.

HUGHES TOOL COMPANY

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HOUSTON, TEXAS

Service Plants
Los Angeles, Calif.
Oklahoma City, Okla.
Midland, Texas

Export Offices
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New York City